

FINAL
Niagara County Multi-Jurisdictional
Hazard Mitigation Plan

February 2008

Prepared for:

NIAGARA COUNTY DEPARTMENT OF EMERGENCY SERVICES

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List of Abbreviations and Acronyms

ATDSR	Agency for Toxic Substances and Disease Registry
CRREL	Cold Region Research and Engineering Lab
DMA	Disaster Mitigation Act
E & E	Ecology and Environment, Inc.
FEMA	Federal Emergency Management Agency
FRA	Federal Railroad Administration
GIS	geographic information system
HAZNY	Hazards, New York
mph	miles per hour
NCDC	National Climate Data Center
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NSTB	National Transportation and Safety Board
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PGA	peak ground acceleration
% PGA	percent peak ground acceleration
SEMO	State Emergency Management Office
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation

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Introduction

1.1 Purpose, Goal and Objectives

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. The purpose of this hazard mitigation plan is to identify community policies, actions and tools for implementation over the long-term that will result in a reduction in risk and potential for future losses within Niagara County and all participating jurisdictions. The hazard mitigation policies, actions and tools chosen for inclusion in the Plan are designed to cost-effectively reduce the vulnerability of one or all of the cities, towns and villages within Niagara County to likely or potential hazard events, both natural and man-made. By implementing this Plan, the County and all participating jurisdictions aim to reduce the cost of disasters to property owners and all levels of local government, protect critical infrastructure, reduce exposure to liability and minimize community disruption from natural and man-made disasters.

The Niagara County Hazard Mitigation Planning Team has established two goals for hazard mitigation throughout the County. These are:

- To improve the safety and security of local residents, businesses and visitors by reducing the impact of natural hazards on life, safety and property throughout the County; and
- To improve the safety and security of local residents, businesses and visitors by preventing or reducing the impact of man-made hazards on life, safety and property throughout the County.

These goals and the objectives that have been set to achieve these goals are further discussed in Section 6.1 of this Plan.

1.2 Scope

This Plan provides a description of all aspects of the planning process including the formation of a Planning Team by Niagara County and engagement of the community in the planning process. The process, and the results of the process, by which the Planning Team has identified and evaluated natural and man-made hazards and estimated the likely outcome of damages and losses resulting from those hazards are also described. This plan provides written documentation of the mitigation goals and objectives that have been established and details the mitigation measures that have been chosen to help achieve these goals and objectives to reduce future disaster-related losses.

1.3 Project Participants

How Did Each Jurisdiction Participate in the Planning Process?

All participating jurisdictions played a key role in the planning process by contributing directly to all aspects of plan development, including hazard identification, risk assessment, development of mitigation strategies, prioritizing mitigation projects and initiatives, and reviewing and commenting on plan drafts. Each participating jurisdiction has passed a resolution adopting the plan (see Appendix A).

Niagara County invited all cities, towns and villages located within Niagara County, as well as the Tuscarora Indian Nation, to participate in the development of the Niagara County Multi-Jurisdictional Hazard Mitigation Plan. (At a later date, the Tuscarora Indian Nation decided not to participate and the Village of Lewiston gave their authority to have the Town of Lewiston represent them.) Participating jurisdictions played a key role throughout the planning process. Each jurisdiction undertook the following activities:

- Assigned knowledgeable personnel from the jurisdiction to serve on the Niagara County Hazard Mitigation Planning Team;
- Provided specific data and information about the jurisdiction and the County including (but not limited to) the location and nature of critical infrastructure within the jurisdiction, copies of existing emergency management plans and policies, copies of any zoning or land use ordinances and maps, lists of all recent and historical emergency events occurring within the jurisdiction, descriptions of the equipment and other assets currently available within the jurisdiction to respond to hazard events, descriptions of all mitigation activities currently identified or planned and a description of any mitigation goals and objectives established by the jurisdiction, descriptions of any modes of public outreach the jurisdiction has utilized successfully in the past;
- Provided feed back and collaborated with other participating jurisdictions to make planning decisions during Planning Team meetings and throughout the plan development process includ-

1. Introduction

ing hazard and risk analysis, establishment of goals and objectives and prioritization of mitigation projects;

- Reviewed, revised and finalized the draft Plan;
- Formally adopted the final Plan; and
- Committed to the maintenance and review of the plan over the coming years.

Table 1-1 provides a list of all participating jurisdictions, the date that each jurisdiction adopted the hazard mitigation plan and the appendix number for that jurisdiction, which provides a profile of the jurisdiction and describes its specific vulnerabilities and the mitigation projects within the plan that impact it. See Appendix A for a copy of each adopting resolution passed by participating jurisdictions.

Table 1-1 Participating Jurisdictions

Participating Jurisdiction	Date Plan Adopted	Jurisdictionally Specific Appendix
Niagara County*		D-V
Village of Barker		D
Town of Cambria		J
Town of Hartland		Q
Town of Lockport		F
City of Lockport		G
Village of Middleport		E
Town of Newfane		T
Town of Niagara		O
City of Niagara Falls		N
City of North Tonawanda		H
Town of Pendleton		K
Town of Somerset		P
Town of Wheatfield		S
Town of Wilson		L
Town of Royalton		I
Village of Wilson		M
Village of Youngstown		R
Town of Lewiston**		U
Town of Porter		V

* Niagara County has taken a multi-jurisdictional approach and thus shares the profile, vulnerabilities, and mitigation efforts of each municipality within the County. Accordingly, it also is fully represented in this plan.

**** The Town of Lewiston also represented the Village of Lewiston.**

Note: The Tuscarora Indian Nation at first had a member on the Planning Committee but later decided not to participate in the final development of this Multi-Jurisdictional Hazard Mitigation Plan.

Additional details concerning the formation and composition of the Niagara County Hazard Mitigation Planning Team; how all members of the Team contributed to the planning process; and opportunities for participation by neighboring communities, agencies, businesses, academic institutions, private and non-profit organizations are included in Section 2.2.

1.4 Authority

On October 30, 2001, the Disaster Mitigation Act of 2000¹ was signed into law, amending the Robert T. Stafford Disaster Relief Act of 1988. Section 322 of the Disaster Mitigation Act requires that states and communities have an approved mitigation plan in place in order to receive post-disaster Hazard Mitigation Grant Program Funds. The Interim Final Rule, prepared by the Federal Emergency Management Agency (FEMA) in order to implement the Disaster Mitigation Act (DMA) 2000 establishes planning and funding criteria for states and local communities². Local and tribal mitigation plans must be based on a sound planning process that accounts for the risk to and the capabilities of the individual communities.

¹ Public Law 106-390

² 44 CFR Parts 201 and 206

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Planning Process and Methodology

The Planning Process:

The 19-month planning process included a variety of research, outreach, and assessment activities. The time period to complete the plan and the type and outcome of planning meetings are illustrated in Figure 2-1.

2.1 Beginning the Planning Process

The planning process for the Niagara County Hazard Mitigation Plan covered a 19-month period beginning in May of 2005. This extensive planning process is documented in detail in this plan and is illustrated in the timeline shown in Figure 2-1. The first step in the planning process was to assess communitywide knowledge and support for hazard mitigation. In May 2005 Niagara County began the development of a gap analysis report which identifies gaps in the County's emergency preparedness network using data gathered from local cities, towns, and villages on the capabilities that currently exist within the County to mitigate, prepare for, respond to and recover from likely disaster events. The County asked each city, town, and village to respond to a series of questions about hazard mitigation to learn whether each jurisdiction has established a pre-disaster hazard mitigation program and what the nature of any existing efforts might be. The gap analysis report, which was completed in July 2005, revealed that local government officials understood the hazards in their area and in some instances had implemented mitigation projects and/or initiatives such as participation in the National Flood Insurance Program (NFIP). However, individual local jurisdictions did not have the internal capabilities and resources necessary to develop an all-hazards mitigation strategy based on the results of a comprehensive hazard identification and risk assessment, to implement mitigation projects and/or initiatives based on priority and provide policy leadership and coordination to promote hazard mitigation programs and initiatives. It became clear that a multi-jurisdictional hazard mitigation plan was needed to identify priorities for mitigation projects and initiatives that would reflect risk assessment results. The plan would need to be coordinated with all levels of local government, nonprofit and nongovernmental organizations. Based on the results of the gap analysis, the County decided to apply for a Pre-Disaster Mitigation Program grant to develop a multi-jurisdictional hazard mitigation plan for Niagara County.

2. Planning Process and Methodology

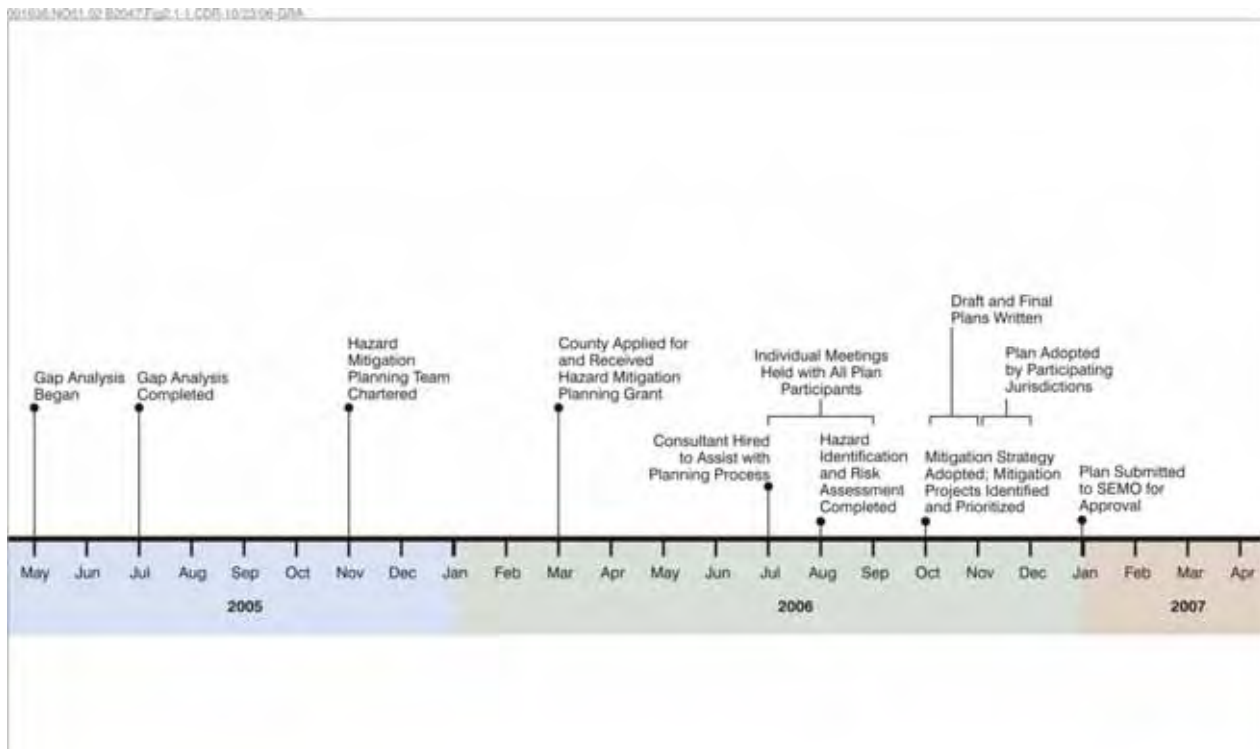


Figure 2-1 Planning Process Timeline

2.2 The Planning Team and Team Coordination

The County formed the Hazard Mitigation Planning Team (Planning Team) to guide the development of the Plan. This team, led by Niagara County sought to provide all stakeholders with an opportunity to assign a representative to the Planning Team. The Planning Team membership includes representatives from the following groups:

Stakeholder Participation:

Representatives from all stakeholder groups including the public were invited to participate in the planning process. The public and neighboring communities, agencies, businesses and nonprofit groups were invited to comment on the planning process as well as the draft Plan. Existing plans studies and reports were collected from sources Countywide and considered during Plan development where appropriate.

- Local, county and state law enforcement;
- Local fire protection;
- Local elected officials including mayors, town supervisors and council members);
- Municipal engineering;
- Local, county, and state emergency management;
- Local and county public works;
- Local highway departments;

2. Planning Process and Methodology

- Local and county water authorities;
- Local code enforcement and building inspection;
- The Tuscarora Nation;
- Local planning and zoning departments; and
- Town attorney's office.

Private agencies, neighboring jurisdictions and the public were also asked to support the work of the Planning Team by providing information during input throughout the planning process. The Planning Team received valuable information from the Niagara County Historical Society, the Nioga Library System, the Red Cross Lockport Chapter, and the Red Cross Niagara Falls Chapter. A detailed description of the public outreach efforts conducted throughout the planning process is found in Section 2.3.

A list of Planning Team members and the organizations, entities and jurisdictions they represent is found in Table 2-1. All Planning Team members lent their time and the resources of their respective agencies and staffs to actively participate in the planning process and methodology. The planning activities undertaken by the members of the Planning Team are further described in Section 2.4.

Niagara County received a grant from FEMA, administered by State Emergency Management Office (SEMO), to complete the Multi-jurisdictional Hazard Mitigation Plan and entered into a contract with SEMO for this grant on March 31, 2006. The County engaged the services of a consultant, Ecology and Environment, Inc. (E & E) to assist in the plan development. The first meeting of the Planning Team was held on May 4, 2006. A list of the meetings of the entire Planning Team and the outcomes for those meetings is found Table 2-2. In addition to the meetings below, E & E conducted individual meetings with key staff members from each participating jurisdiction as well as public and private entities contributing information to the planning process.

Table 2-1 Niagara County Hazard Mitigation Planning Team

Name of Team Member	Title	Entity Represented	Member Responsibilities
Michael Dembrow	Sergeant	New York State Police	Provided information on various aspects of the plan.
Richard Minogue	Planning	State Emergency Management Office, Region V	Provided guidance and input throughout planning process.
John Cecula	Assistant Director of Emergency Services	Niagara County	Chairperson of the Planning Team
Rob DeVoe	Deputy Commissioner	Niagara County Department of Public Works	Provided information on various aspects of the plan.
Laurie Merletti	Director of Quality/Risk	Mount Saint Mary's Hospital	Provided information on vulnerabilities of public health network.
Raymond Degan		Sheriff's Department	Provided information on various aspects of the plan.
Bill Clark	Regional Director	SEMO, Region V	Provided guidance and input throughout planning process.
Norm Pearson	Chairman	Niagara County LEPC	Provided information on various aspects of the plan.
Dan Hausman	Vice-chairman	Niagara County LEPC	Provided information on various aspects of the plan.
Michael P. Costello	Police Department/LERC	City of Lockport	Point persons for City of Lockport, reviewed and contributed to all aspects of the Plan, developed Appendix G.
Michael Tucker	Mayor	City of Lockport	
Vincent V. Anello	Mayor	City of Niagara Falls	Point persons for City of Niagara Falls, reviewed and contributed to all aspects of the Plan, developed Appendix N.
Mario P. Tonellato	Youth Services	City of Niagara Falls	
Robert Curtis	City Engineer	City of Niagara Falls	
William D. MacKay	Fire Chief	City of Niagara Falls	
John P. Caso	Division Manager Department of Public Works, Parks and Recreation	City of Niagara Falls	
Sam Granieri		City of Niagara Falls	

Table 2-1 Niagara County Hazard Mitigation Planning Team

Name of Team Member	Title	Entity Represented	Member Responsibilities
Lawrence Soos	Mayor	City of North Tonawanda	Point persons for City of North Tonawanda, reviewed and contributed to all aspects of the Plan, developed Appendix H.
William Manth	Deputy Director of EMO	City of North Tonawanda	
Gerald Doucette	Deputy Director of EMO	City of North Tonawanda	
Mike Tracy	Deputy Commissioner	Niagara County Department of Public Works	Provided information on various aspects of the plan.
Wright H. Ellis	Town Supervisor	Town of Cambria	Point persons for Town of Cambria, reviewed and contributed to all aspects of the Plan, developed Appendix J.
Heather Blasius	Highway Clerk	Town of Cambria	
Frank Previte	Sergeant, Lewiston PD	Town of Lewiston	Point persons for Town of Lewiston, reviewed and contributed to all aspects of the Plan, developed Appendix U.
Fred Newlin	Town Supervisor	Town of Lewiston	
Paul Pettit	Councilman	Town of Lockport	Point persons for Town of Lockport, reviewed and contributed to all aspects of the Plan, developed Appendix F.
Marc Smith	Town Supervisor	Town of Lockport	
Robert Klavoon	Town Engineer	Town of Lockport	
Tim Horanburg	Town Supervisor	Town of Newfane	Point persons for Town of Newfane, reviewed and contributed to all aspects of the Plan, developed Appendix T.
James Wendler	Deputy Supervisor	Town of Newfane	
Steven Richards	Town Supervisor	Town of Niagara	Point persons for Town of Niagara, reviewed and contributed to all aspects of the Plan, developed Appendix O.
James Suitor	Chief of Police	Town of Niagara	
James Riester	Town Supervisor	Town of Pendleton	Point person for Town of Pendleton, reviewed and contributed to all aspects of the Plan, developed Appendix K.
Merton Wiepert	Town Supervisor	Town of Porter	Point person for Town of Porter, reviewed and contributed to all

Table 2-1 Niagara County Hazard Mitigation Planning Team

Name of Team Member	Title	Entity Represented	Member Responsibilities
			aspects of the Plan, developed Appendix V.
Cal Rhoney	Town Supervisor	Town of Royalton	Point person for Town of Royalton, reviewed and contributed to all aspects of the Plan, developed Appendix H.
John Sweeney	Town Supervisor	Town of Somerset	Point persons for Town of Somerset, reviewed and contributed to all aspects of the Plan, developed Appendix P.
Randy Hildebrant	Code Enforcement Officer	Town of Somerset	
Timothy Demler	Town Supervisor	Town of Wheatfield	Point persons for Town of Wheatfield, reviewed and contributed to all aspects of the Plan, developed Appendix S.
Richard W. Muscatello	Planning and Zoning	Town of Wheatfield	
Robert O'Toole	Town Attorney	Town of Wheatfield	
Don MacSwan	Building Inspector	Town of Wheatfield	
Ron Dworzanski	Sheriff's Department	Town of Wheatfield	
Arthur Palmer	Councilman	Town of Wheatfield	
Arthur F. Kroening	Highway Department	Town of Wheatfield	Provided information on various aspects of the plan.
Matthew Patterson	Solid Waste and Emergency Response	Tuscarora Nation, Environment Office	
Cheryl Parr	Mayor	Village of Barker	Point person for Village of Barker, reviewed and contributed to all aspects of the Plan, developed Appendix D.
Julia Maedl	Mayor	Village of Middleport	Point persons for Village of Middleport, reviewed and contributed to all aspects of the Plan, developed Appendix E.
Rebecca Schweigert	Clerk/Treasurer	Village of Middleport	
Thomas J. Bateman	Mayor	Village of Wilson	Point persons for Village of Wilson, reviewed and contributed to all aspects of the Plan, developed Appendix M.
Brad Clark	Councilman	Town of Wilson	
Diane Muscoreil	Deputy Clerk	Town of Wilson	
Joseph Jastrzemski	Town Supervisor	Town of Wilson	
Neil Riordan	Mayor	Village of Youngstown	Point persons for Village of

Table 2-1 Niagara County Hazard Mitigation Planning Team

Name of Team Member	Title	Entity Represented	Member Responsibilities
Dan Pierini	Youngstown PD	Village of Youngstown	Youngstown, reviewed and contributed to all aspects of the Plan, developed Appendix R.
Janet K. Slack	Highway Department, Administrative Assistant	Town of Hartland	Point persons for Town of Hartland, reviewed and contributed to all aspects of the Plan, developed Appendix Q.
Michael S. Hartman	Code Enforcement/ Building Inspector	Town of Hartland	
Keith E. Hurtgam	Highway Superintendent	Town of Hartland	
Elizabeth R. Santacrose	Project Manager	Ecology and Environment, Inc.	Provided overall support to the Planning Team and the Planning Team Chair in developing the Plan.
Rachel Smith	Project Team Member	Ecology and Environment, Inc.	Worked individually with the members of the Planning Team in drafting the Appendices for each participating jurisdiction.
Kimberly Giddings	Project Team Member	Ecology and Environment, Inc.	

2. Planning Process and Methodology

Table 2-2 Meetings Conducted during the Niagara County Hazard Mitigation Planning Process

Type of Meeting	Date	Meeting Outcome
Meeting of the Planning Team: Project Kick-off	May 4, 2006	Meeting attendees received an introduction on the planning process and their roles and responsibilities for the coming months as the plan is developed.
Meeting of the Planning Team: Hazard ID and Risk Assessment	August 11, 2006	Meeting attendees reviewed hazard identification and risk assessment results completed to date and considered next steps including public outreach.
Meeting of the Planning Team: Mitigation Strategy	September 19, 2006	Meeting attendees established goals and objectives for the plan based on the results of the Hazard ID and Risk Assessment and assigned tasks for public outreach.
Meeting of the Planning Team: Review of Draft Plan	October 26, 2006	Meeting attendees reviewed the first complete draft of the Hazard Mitigation Plan including prioritization of mitigation projects. Assigned additional tasks for public outreach.
Meeting of the Planning Team: Plan Adoption	December 7, 2006	The final draft plan was released for consideration for adoption on November 9 and the status of adoption County-wide was discussed.

2.3 Public Outreach

Solicitation of Public Input:

The public was provided with opportunities to review and contribute to the Plan development, throughout the planning process. The first public comment period occurred before the first draft of the Plan was complete so that the public could contribute information for the draft. The second public comment period was held after the first draft of the plan was complete, but before it was adopted by the County and participating jurisdictions. Public outreach materials are included in Appendix B.

The public was provided with opportunities to comment on and provide information for use during the planning process at two stages. The first public comment period occurred in late September and early October, before the first draft of the plan was completed. A fact sheet was developed that described the planning efforts under way and asked for comments from the public. A comment form was also developed in order to facilitate the public's submission of comments. A copy of the fact sheet and comment form is available in Appendix B. The fact sheet and comment form were posted on the Niagara County website. Each participating jurisdiction also distributed the fact sheet and comment form in the way that they found most effective for their communities. Fact sheets and comment forms were posted on city, town, and village websites; distributed to local gathering places; and their availability was advertised in local news bulletins and newsletters.

The second public comment period was conducted in late October and early November. A copy of the Draft Hazard Mitigation Plan was distributed to the public via County and local websites. A hard copy of the plan was also made available at public buildings throughout the County. A comment form was again developed to facilitate the public's submission of comments on the draft Plan. This comment form is available in Appendix B. All comments re-

2. Planning Process and Methodology

ceived were considered before the draft plan was finalized and adopted by the participating jurisdictions.

An email was sent to key representatives from neighboring jurisdictions outside the County to make them aware of the planning process and to request their input. Local business partners, universities, and academic institutions and non-profit organizations were contacted by phone and by e-mail and, in some cases, by personal visit to solicit and collect their input for the Plan.

2.4 Planning Methodology

The first planning activity undertaken by the Planning Team was hazard identification. The Planning Team considered a complete list of all hazards, both natural and man-made, that could occur within the County and then focused in on those hazards that had the potential to significantly impact one or more jurisdiction within the County. Hazard profiles, detailing the probability of occurrence, past occurrences, severity and location, were developed for each of these significant hazards. In many instances, geographic information systems were used to map the hazard impact zones for a specific hazard. The results of the hazard identification undertaken and the hazard profiles are contained in Section 4 of this Plan.

Next the Planning Team focused on the completion of a vulnerability and risk assessment for the County. The Planning Team undertook a review of the existing Niagara County Critical Infrastructure Database in order to inventory all assets within the County that could be impacted by a hazard event. The Critical Infrastructure Database includes commercial real property, religious and non-profit, food, water, public health, agricultural, emergency services, government, defense industrial base, information telecommunications, transportation, banking and finance, chemical industry and hazardous materials, energy and utilities and postal and shipping facilities throughout the County. The members of the Planning Team reviewed and revised the database to ensure that it is current and complete and gathered critical details about each critical facility such as the facility owner, use and size. The Planning Team then used the hazard zone maps developed included in the hazard profiles to detail which critical facilities are vulnerable to significant hazard events. The Planning Team used this information to compile a loss estimate for each significant hazard. The results of the vulnerability and risk assessment and the loss estimates for each significant hazard are detailed in Section 5 of this Plan.

2. Planning Process and Methodology

Next the Planning Team adopted mitigation planning goals to guide long-term mitigation planning and corresponding mitigation strategies to implement the goals. The Planning Team crafted the mitigation planning goals and strategies after reviewing and analyzing the results of the vulnerability and risk assessment including the hazard loss estimates. The goals were formulated to be consistent with those of existing plans and policies at the County and local levels. Once the goals were finalized, more specific, measurable objectives were developed to expand on the goals and provide more detail on the ways to accomplish them in the future. The mitigation goals and objectives adopted for this plan are included in Section 6.1. Following the adoption of the goals and objectives the Planning Team compiled a list of mitigation actions which were grouped into the following six categories: prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural projects. All alternative mitigation actions were identified and considered and the capabilities now existing within the County to complete the actions were also considered. The mitigation actions identified were then evaluated and prioritized. Prioritization of the mitigation measures was accomplished using the SAPLEE criteria which include social, technical, administrative, political, legal, economic and environmental considerations. The comprehensive range of specific mitigation actions considered as well as the prioritized list of mitigation actions is included in Section 6.2.

The Planning Team then prepared a strategy for implementing the mitigation actions included in this Plan. Specific information, critical for the implementation of each mitigation action was compiled including the parties responsible for undertaking each action, the projected timeline and estimated cost of each project. The County then created the Critical Infrastructure and Risk Management Team. This team will be responsible for coordinating and tracking the implementation of this All-hazards Mitigation Plan over the coming months and years. The Critical Infrastructure and Risk Management Team will also monitor the impacts of the measures taken. The team is lead by Kevin O'Brien, the Commissioner of the County Department of Public Works and is described more fully in Section 6.3 of this Plan. The last step in the planning process was for the Planning Team to set out procedures for the evaluation and revision of the Plan. The steps for plan maintenance, including incorporation into existing planning mechanisms, continued public involvement and regular plan revisions are detailed in Section 7 of this Plan.

2. Planning Process and Methodology

All participating jurisdictions adopted the plan once it was finalized. Copies of the adopting resolutions are available in Appendix A.

Review of Current Plan, Policies and Reports:

The Planning Team reviewed and incorporated all existing plans, studies, reports and technical information into the Plan as appropriate. A list of all documents collected and incorporated is included in Appendix C.

2.4.1 Review of Current Plans, Policies and Reports

The Planning Team assembled and reviewed all existing applicable plans and reports in order to guide their decisions during the planning process and to ensure that the plan developed would be consistent with existing plans and policies Countywide. A list of the current plans, policies and reports consulted is contained in Appendix C. The information found within the existing plans, policies, and reports has been incorporated throughout this plan as appropriate. In many instances the documents were used to identify potential hazards, characterize vulnerability to specific jurisdictions or infrastructure from a hazard, identify mitigation activities which are now planned or needed to be planned, develop avenues of incorporating this plan into existing policies and procedures, and guide the development of jurisdictionally specific Appendices D to V.

3

Profile of the Planning Community

3.1 Niagara County Profile

Niagara County is located in the northwest corner of New York State and is bordered on two sides by water: Lake Ontario to the north and the Niagara River to the west. The County is uniquely situated along the undefended international border between the United States and Canada. The geographic boundaries of Niagara County encompass 523 miles (see Figure 3-1). The most recent census data available indicates that 219,846 people currently reside within the County and presents information about the diverse populations and the special needs of some populations lining in Niagara County. Six percent of the population is 5 years old or under, while 15% of the County's total population is 65 years old or older. Of the population aged 21 to 64, 18% are disabled. Six percent of the population aged 5 years or older speaks a language other than English in their homes. Of significance is the Tuscarora Nation which is located within Niagara County with an estimated population of 2,500 people. Table 3-1 contains a description of the County jurisdictions including information on population and land area. A more detailed profile for each participating jurisdiction is included in an appendix developed for each participation jurisdiction, see Appendices D through V.

Table 3-1 Population and Land Area for Jurisdictions within Niagara County

Jurisdiction	Population	Land Area (square miles)
Niagara County	219,846	523
City of Niagara Falls	55,593	14.1
City of Lockport	22,279	8.5
City of North Tonawanda	33,262	10.1
Tuscarora Indian Reservation	1,138	
Town of Cambria	5,393	39.9
Town of Hartland	4,165	52.3

3. Profile of the Planning Community

Table 3-1 Population and Land Area for Jurisdictions within Niagara County

Jurisdiction	Population	Land Area (square miles)
Town of Lewiston	16,257	37.2
Town of Lockport	19,653	44.6
Town of Newfane	9,657	51.8
Town of Niagara	8,978	9.4
Town of Pendleton	6,050	27.2
Town of Porter	6,920	33.2
Town of Royalton	7,710	69.8
Town of Somerset	2,865	37.2
Town of Wheatfield	14,086	27.9
Town of Wilson	5,840	49.5
Village of Barker	577	0.4
Village of Lewiston	2,781	1.1
Village of Middleport	1,917	0.7
Village of Wilson	1,213	0.8
Village of Youngstown	1,957	1.2

The County is characterized predominately agricultural fields (e.g., pasture, hay, row crops), cultivated crops, and deciduous forest. The County also contains significant amounts of open water, developed spaces, unconsolidated shoreline, evergreen and mixed forests, urban and recreational grass areas, and palustrine forested and scrub/shrub wetlands. Table 3-2 presents a breakdown of the acreage within the County by land use and land cover type. Figure 3-2 presents a map of the land use and land cover types throughout the County. Figure 3-3 presents a map of all wetlands and waterbodies within the County identified by the National Wetland Inventory and the New York State Department of Environmental Conservation (NYSDEC). Several New York State Agricultural Districts exist within the County covering approximately 192,000 acres as shown in Table 3-3. A map of the locations of these agricultural districts is presented in Figure 3-4. Residential development consists of individual single-family homes and farmhouses, and is concentrated primarily within the cities of Niagara Falls, Lockport, and North Tonawanda. The topography and geologic characteristics present throughout the County are illustrated in Figures 3-5 and 3-6.

3. Profile of the Planning Community

Table 3-2 Countywide Land Use/Land Cover Types

Land Use Type	Acres	Percentage of Total Acreage Countywide
Pasture/Hay	159,183.6	47.1
Cultivated Crops	73,736.2	21.8
Deciduous Forest	56,291.6	16.7
Developed, Open Space	13,892.0	4.1
Mixed Forest	10,216.5	3.0
Urban/Recreational Grasses	6,039.5	1.8
Developed, Medium Intensity	4,738.1	1.4
Open Water	4,379.9	1.3
Developed, Low Intensity	3,809.8	1.1
Palustrine Forested Wetland	3,016.7	0.9
Palustrine Scrub/Shrub Wetland	1,135.9	0.4
Unconsolidated Shore	1,134.0	0.4
Evergreen Forest	151	>.1
Total Acres		337,724.8

**Table 3-3 Niagara County
Agricultural Districts**

District Code	Acres
Niagara:00	16.7
Niagara:02	40,594.2
Niagara:04	34,730.1
Niagara:06	24,859.1
Niagara:07	19,054.7
Niagara:08	41,846.0
Niagara:09	30,787.4
Total Acres	191,888.2



- County Boundary
- Urban Areas
- State Boundary
- General Project Location

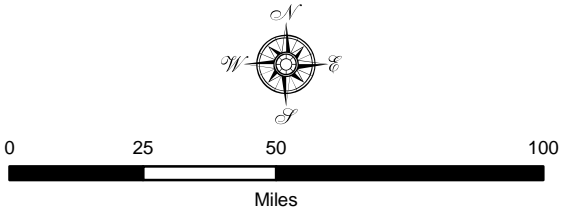
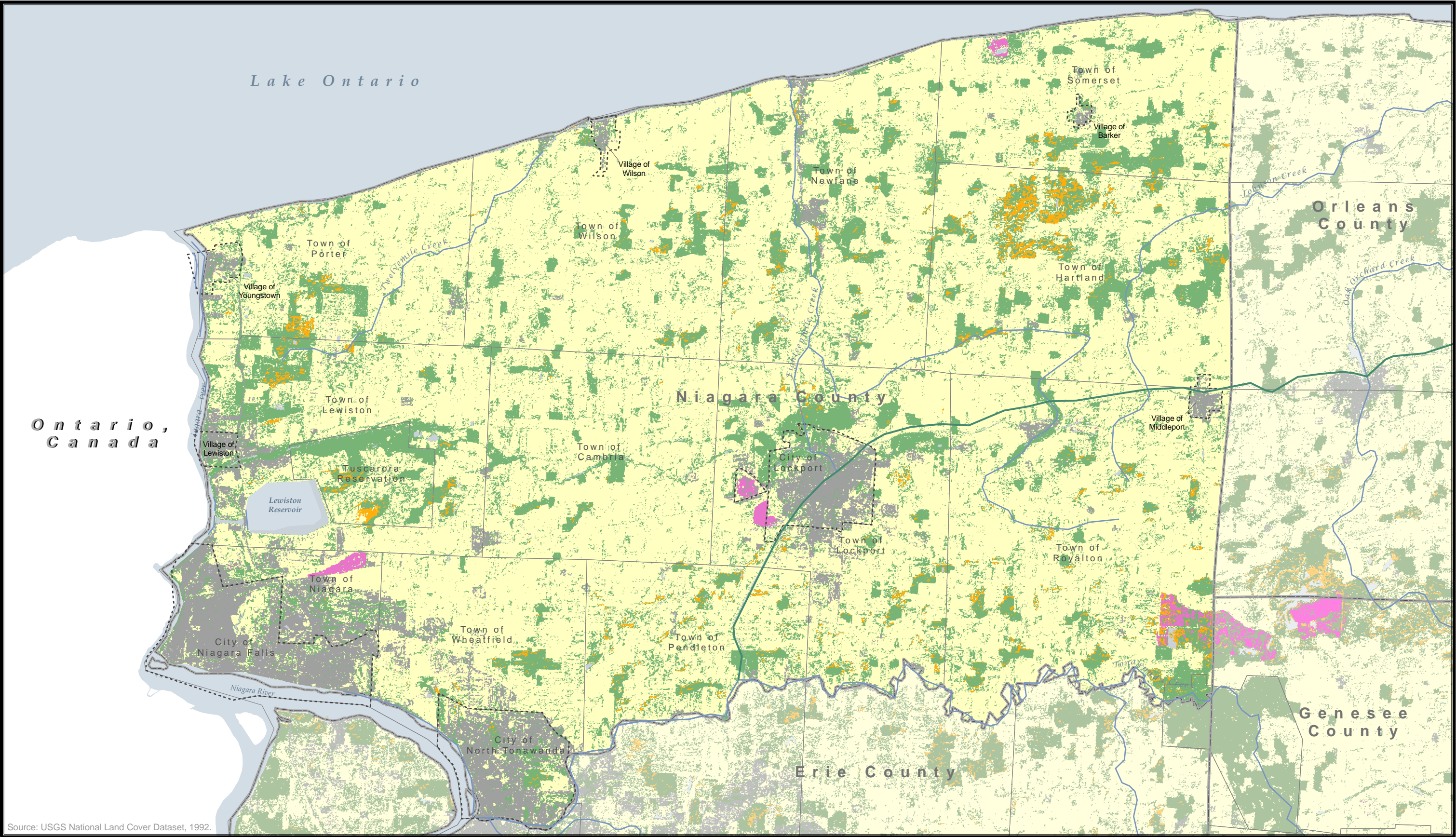


Figure 3-1
General Study Area
Niagara County, New York



Source: USGS National Land Cover Dataset, 1992.

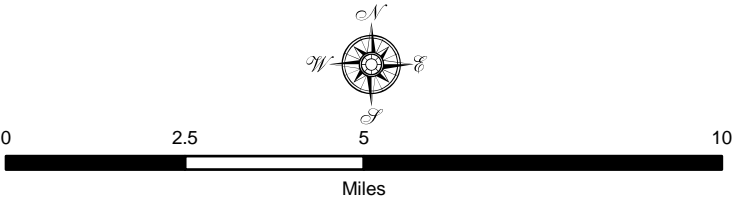
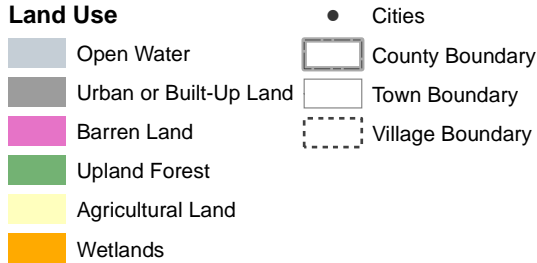


Figure 3-2
Land Use Types
Niagara County, New York

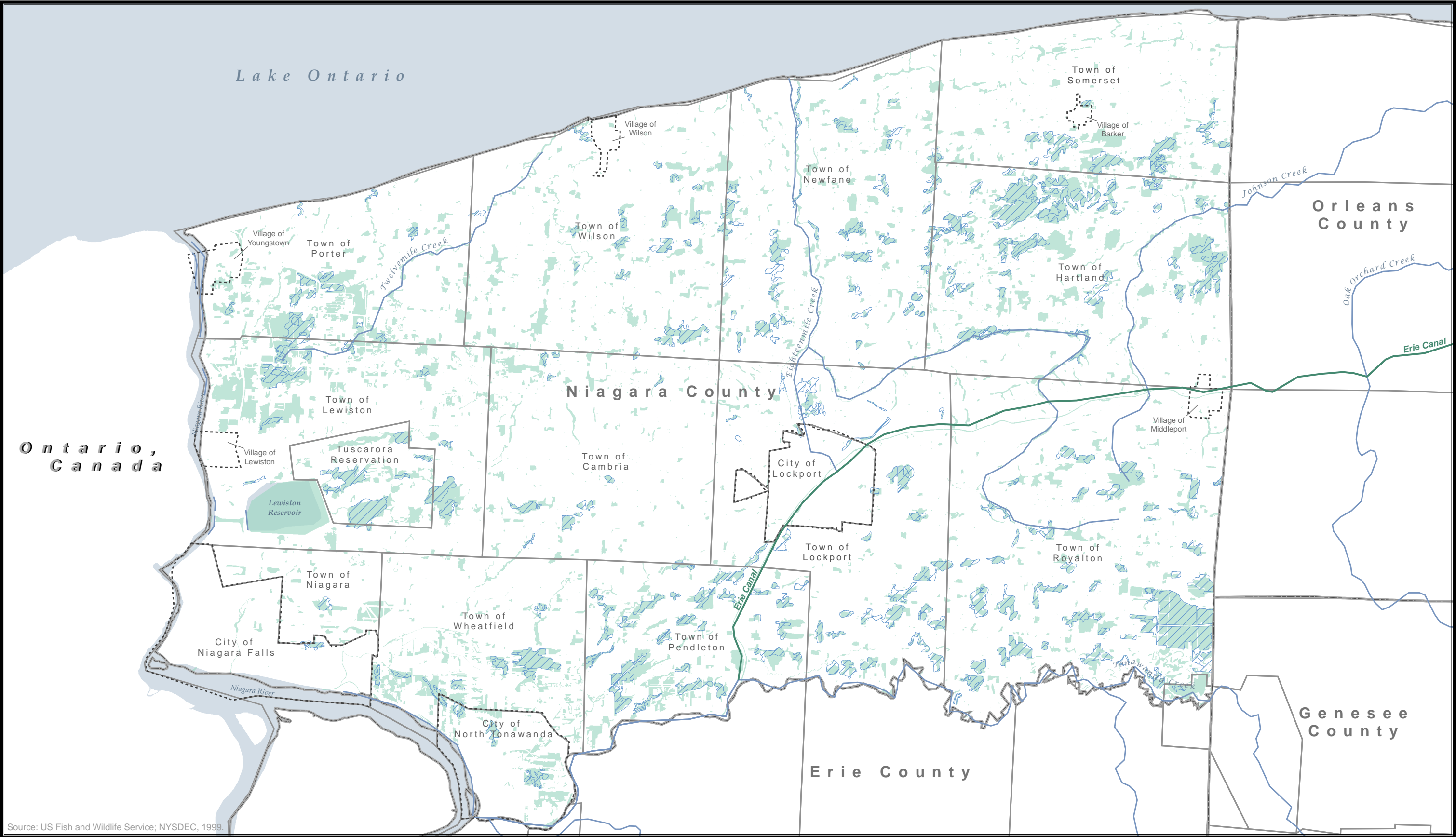
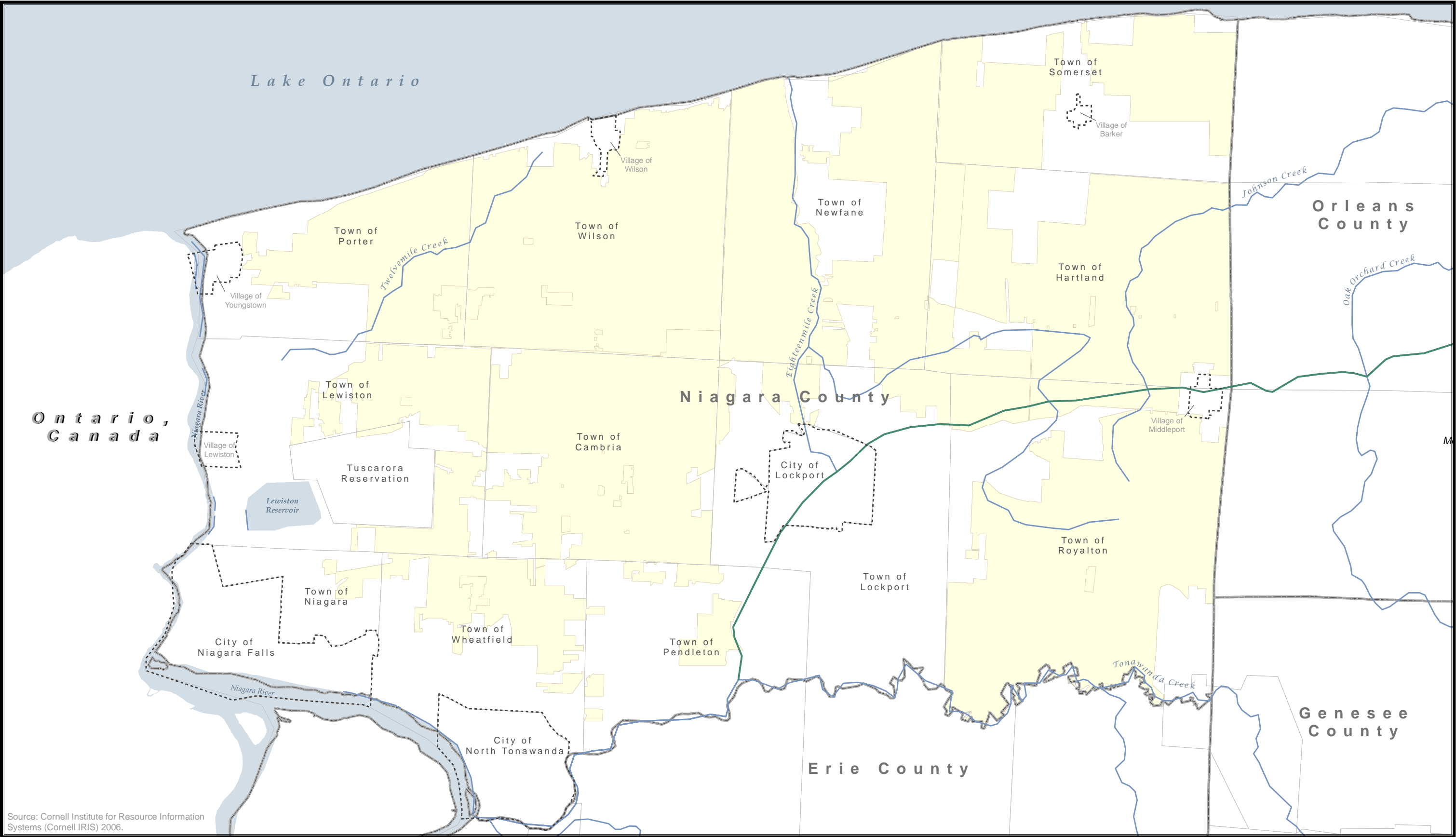


Figure 3-3
NWI and NYSDEC Freshwater Wetlands
Niagara County, New York



- Cities
- County Boundary
- Town Boundary
- Village Boundary
- New York State Agricultural Districts

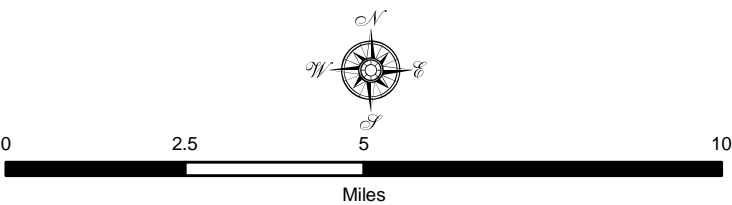


Figure 3-4
Agricultural Districts
Niagara County, New York



Source: USGS 1:250,000 Topographic Map
 Toronto Quad, 1965.

County Boundary

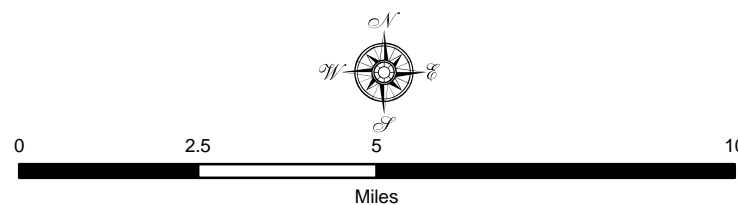
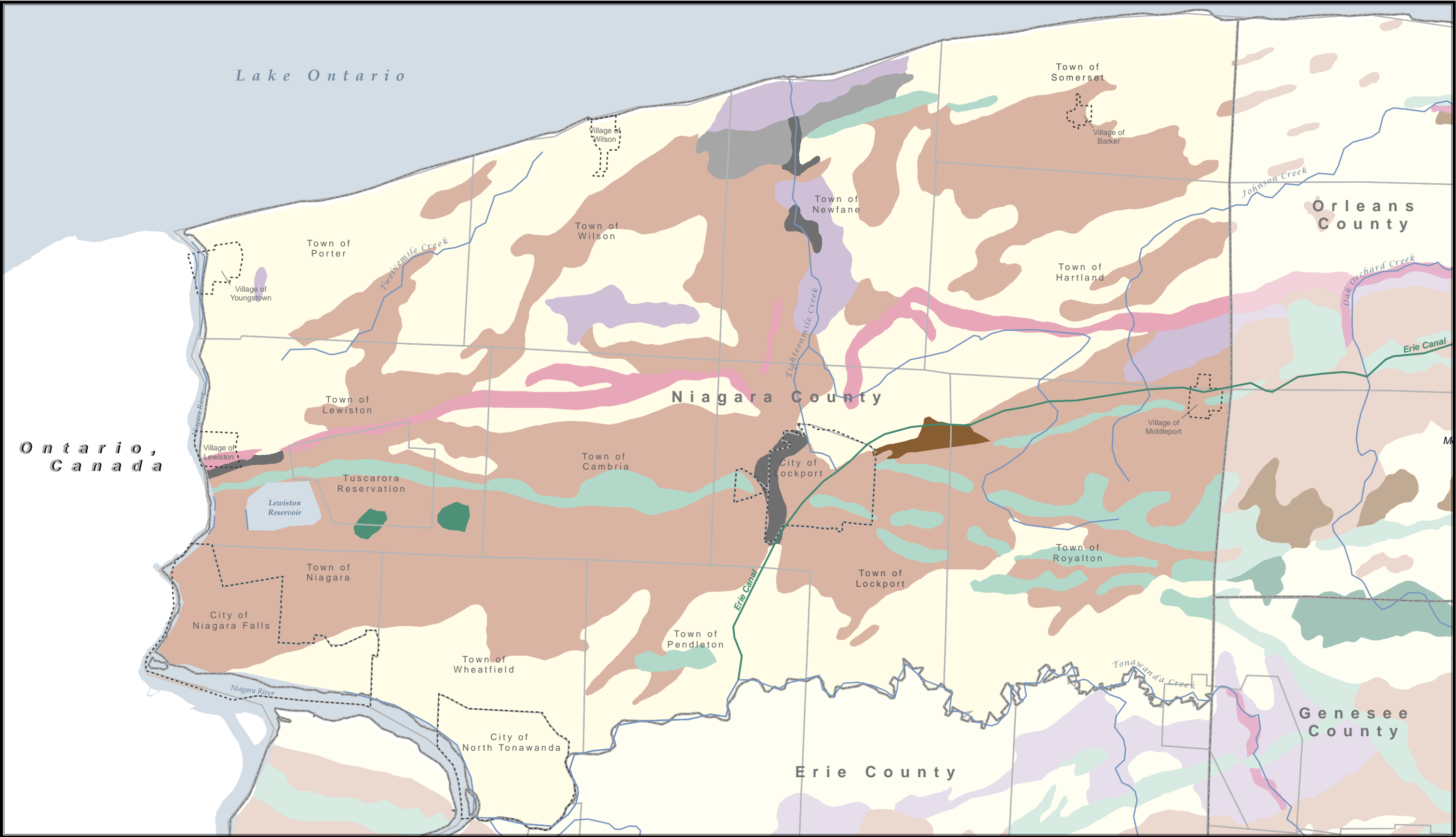


Figure 3-5
 USGS 1:250,000 Topographic Map
 Niagara County, New York



Source: Federal Emergency Management Agency 1983.

- | | | |
|--------------------------|--------------------------|------------------|
| Surficial Geology | Lacustrine Beach | Town Boundary |
| Swamp Deposits | Lacustrine Sand | Village Boundary |
| Recent Alluvium | Lacustrine Silt and Clay | County Boundary |
| Colluvial Diamicton | Outwash and Gravel | |
| Kame Moraine | Bedrock | |
| Colluvium | Till | |
| Kame Deposits | Till Moraine | |

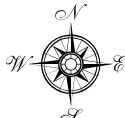


Figure 3-6
Surficial Geology
Niagara County, New York

4

Hazards in Niagara County

Hazard Identification and Profile:

This section of the plan identifies and describes all hazards likely to affect Niagara County and any participating jurisdiction. Detailed profiles of each likely hazard are included in Section 4.2 below.

4.1 Identifying Hazards

The Planning Team has identified and assessed the specific potential for hazard events that could occur within the County and within any participating jurisdiction. Potential hazards include natural and man-made hazards. Natural hazards are defined as any process or event taking place in the natural environment that destroys human life, property, or both. For the purposes of this Plan, man-made hazards include technological hazards and terrorism. These are distinct from natural hazards in that they originate from human activity. Technological hazards are those that arise from human activities such as the manufacture, transportation, storage, and use of hazardous materials. The term “terrorism”³ as used in this Plan, describes any intentional, criminal, malicious acts including the use of any of the following methods, weapons, or agents:

- Biological agent;
- Chemical agent;
- Nuclear weapon;
- Radiological weapon;
- Arson;
- Incendiary device;
- Explosive device;

³ Note that terrorism is defined in the Code of Federal Regulations as “... the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.” See 28 CFR Section 0.85. A more expansive definition for the term terrorism is used in this Plan in that the purpose of the act is not considered.

4. Hazards in Niagara County

- Armed attack;
- Industrial sabotage;
- Intentional hazardous materials releases; and
- Cyber terrorism.

In order to identify all potential hazards the Planning Team reviewed all existing hazard assessments completed within the County including the results of the most recent Niagara County Hazards, New York (HAZNY) analysis workshop conducted in August, 2003. See Appendix W for the complete results of the 2003 HAZNY Workshop which ranked Terrorism, Utility Failure and Severe Winter Storm as the top three hazards Countywide. The Planning Team also considered all recent hazard events including declared disasters and other major emergencies. A list of all disaster and emergency declarations issued within the last 10 years and including Niagara County is included in Appendix X. The State Hazard Mitigation Officer was also consulted to identify applicable hazards.

A variety of other information sources were consulted in order to obtain hazard-specific facts and details to determine which hazards were a potential threat to Niagara County and the jurisdictions within Niagara County. For natural hazards, the Planning Team consulted federal and state-run websites, local and County officials and other local entities such as the Niagara County Historical Society for information on past hazard occurrences and their impacts. For man-made hazards, the Planning Team consulted the Niagara County Critical Infrastructure Database, which is discussed in Section 5, and the knowledge and experience of local and County first responders and emergency managers.

Each of the hazards listed in Table 4-1 was considered by the Planning Team for inclusion in the Niagara County All-hazards Mitigation Planning process. First the Planning Team sought to determine whether a hazard had the potential to occur within the County. Then the Planning Team used the results of the research and discussions described above, to determine which of the potential hazards posed a significant threat to one or more jurisdictions within the County. Hazards posing a significant threat are highlighted in grey in Table 4-1 and are profiled in detail in Section 4.2. The most critical potential hazards identified by the Planning Team are:

4. Hazards in Niagara County

- An intentional act, potentially an act of terrorism, precipitating a Countywide disaster impacting the lives, safety, and economy of populations within and outside of the County;
- Utility failure due to technological or natural causes impacting large populations within and outside of the County;
- A severe winter storm system that deposits precipitation, such as snow (including lake effect snow), sleet, or freezing rain, with a significant impact on transportation systems and public safety; and
- The uncontrolled release of hazardous materials during transport, potentially causing death or injury to people and/or damage to property and the environment within and outside the County.

All relevant hazards for this geographic area were considered. All hazards included in Table 4-1 are shown as having a potential to occur but no potential to pose a significant threat. These hazards were not profiled because while the hazard was deemed to have a remote potential to occur it would either be highly unlikely to occur or would not be able to rise to the level of an emergency even if it were to be as severe as possible for this geographic region. In the instances of drought, extreme heat, hailstorm, hurricane, land subsidence and wildfire these hazards were determined not to pose a significant threat to the geographic region, although there are remote possibilities that they could occur, based on a lack of significant past occurrences and probably future occurrences. In all cases, should circumstances in future years change to turn a hazard into a credible threat to the County or a participating jurisdiction, the hazard will be reconsidered for profiling during plan revisions.

Table 4-1 Hazard Identification Results

Hazard Type	Hazards Identified	Has Potential to Occur	Poses a Significant Threat
Natural Hazards	Air Contamination (Naturally Occurring)	Yes	No
	Avalanche	No	No
	Blight	Yes	No
	<i>Coastal Erosion</i>	<i>Yes</i>	<i>Yes</i>
	Coastal Storm or Nor'easter	No	No
	Drought	Yes	No
	<i>Earthquake</i>	<i>Yes</i>	<i>Yes</i>
	Expansive Soils	No	No
	Extreme Heat	Yes	No

4. Hazards in Niagara County

Table 4-1 Hazard Identification Results

Hazard Type	Hazards Identified	Has Potential to Occur	Poses a Significant Threat
	<i>Flood</i>	<i>Yes</i>	<i>Yes</i>
	Hailstorm	Yes	No
	Hurricane	Yes	No
	<i>Ice Jam</i>	<i>Yes</i>	<i>Yes</i>
	<i>Ice Storm</i>	<i>Yes</i>	<i>Yes</i>
	Infestation	Yes	No
	<i>Landslide</i>	<i>Yes</i>	<i>Yes</i>
	Land Subsidence	No	No
	<i>Severe Storm</i>	<i>Yes</i>	<i>Yes</i>
	<i>Severe Winter Storm</i>	<i>Yes</i>	<i>Yes</i>
	<i>Tornado</i>	<i>Yes</i>	<i>Yes</i>
	Tsunami	No	No
	Volcano	No	No
	Wildfire	No	No
	<i>Windstorm</i>	<i>Yes</i>	<i>Yes</i>
Man-made Hazards	Agri-terrorism/Agricultural Epidemic	Yes	No
	<i>Air Contamination (Intentional or Accidental)</i>	<i>Yes</i>	<i>Yes</i>
	Armed Attack	Yes	No
	Arson or Incendiary Attack	Yes	No
	Biological Agent Release	Yes	No
	Chemical Agent Release	Yes	No
	Civil Unrest	Yes	No
	Cyber Failure (Intentional or Accidental)	Yes	No
	<i>Dam Failure</i>	<i>Yes</i>	<i>Yes</i>
	<i>Conventional Bomb or Improvised Explosive Device</i>	<i>Yes</i>	<i>Yes</i>
	Fuel Shortage	Yes	No
	<i>Hazmat Fixed Site</i>	<i>Yes</i>	<i>Yes</i>
	<i>Hazmat In Transit</i>	<i>Yes</i>	<i>Yes</i>
	<i>Human Epidemic</i>	<i>Yes</i>	<i>Yes</i>
	Labor Dispute	Yes	No
	Nuclear Bomb	Yes	No
	Oil Spill	Yes	No
	<i>Power Failure</i>	<i>Yes</i>	<i>Yes</i>
	Radiological Fixed Site	Yes	No
	Radiological in Transit	Yes	No
	Structural Collapse	Yes	No
	Structure Fire	Yes	No
	<i>Terrorism</i>	<i>Yes</i>	<i>Yes</i>
	<i>Transportation Accident</i>	<i>Yes</i>	<i>Yes</i>

4. Hazards in Niagara County

Table 4-1 Hazard Identification Results

Hazard Type	Hazards Identified	Has Potential to Occur	Poses a Significant Threat
	Utility Failure	Yes	No
	Water Supply Contamination	Yes	No

4.2 Hazard Profiles

The hazard profiles included in this section identify the geographic area affected for each natural hazard profiled and the extent, in terms of magnitude and severity, of each hazard profiled. The profiles include information on previous occurrences of each hazard and the probability of future occurrences.

4.2.1 Natural Hazard Profiles

4.2.1.1 Flooding

Flooding is a natural occurrence in rivers, streams, and drainage-ways. Floodplains are lowlands directly adjacent to a waterbody that is subject to flooding, when excess water from rain, snowmelt, or storm surge overflows its banks. Several causes of riverine and stormwater flooding in Niagara County may include overflow from a river channel, flash floods, alluvial fan floods, mudflows and debris flows, flooding due to dam failure, local drainage or high groundwater levels, fluctuating lake levels and ice-jam floods. Coastal flooding that may also occur on the southern shores of Lake Ontario and along the Niagara River includes storm surge, tides, and wave action.

Probability of Occurrence

Flooding is the most common hazard in the United States and kills an average of 150 people a year nationwide. Riverine flooding occurs in Niagara County at least once a year. Localized urban flooding is common in many areas of the County where there are old drainage systems that cannot handle excessive rain events. The probability of recurrent urban flooding is expected in areas where drainage systems have not been updated. Therefore, the probability of recurrent flooding within the County is inevitable.

An analysis of the 2004 NFIP flood data has showed that Niagara County is the 27th County in New York State most threatened by flood and vulnerable to flood loss (including Q3 flood data). NFIP has given Niagara County a flood vulnerability rating of 25, which is a moderate risk rating. This rating system factors in the number of NFIP insurance policies and claims, total monetary claims and NFIP policy coverage, number of repetitive flood loss properties, and the number and percent of residential structures located in a 100-year floodplain. Niagara County contains 5.41% of land lo-

4. Hazards in Niagara County

cated in a 100-year floodplain, of which 3,203 residential structures or 4.9% of all residential structures in the County are located.

Past Occurrences

According to the National Oceanic and Atmospheric Administration's (NOAA's) National Climate Data Center (NCDC) 14 flood events affecting Niagara County were recorded from January 1993 to April 2006 (refer to Table 4-2 for detailed information). The total cost for those events including all areas affected was \$6.8 million in property damage and resulted in one injury and one death. The most costly flooding event to affect Niagara County since 1993 occurred on September 9, 2004. The flooding affected counties throughout western and central New York State costing the entire area approximately \$3.7 million in property damage and resulted in one death. This event was due to the torrential rains associated with the remnants of hurricane Francis, with rainfall of 3 to 5 inches occurring within a 6 to 9-hour period. The Tonawanda Creek crested 1.12 feet above flood stage the following day. This flooding event resulted in a Presidential Disaster Declaration for Niagara County and other affected counties. Four flooding events since 1985 have resulted in Presidential Disaster Declarations for Niagara County (see Table 4-3).

Table 4-2 NOAA Recorded Flood Events for Niagara County between January 1993 and April 2006

Location or County	Date	Time	Type	Death	Injury	Property Damage (\$)	Crop Damage	County River/Streams/ Other Affected
NYZ001-021	3/30/1993	7:35AM	Flood	0	0	50,000	0	Unknown
NYZ001-021-022-Lockport	4/1/1993	0	Flood	0	0	500,000	0	Tonawanda Creek
Niagara Falls	8/8/1996	4:20 PM	Flash Flood	0	0	20,000	0	Urban Flooding
Niagara Falls	1/8/1998	4:00 PM	Flash Flood	0	0	1,000,000	0	Urban Flooding, small streams and creeks throughout County
Niagara Falls	1/8/1998	4:45 PM	Flash Flood	0	0	1,000	0	Urban Flooding, small streams and creeks throughout County
Royalton Center	1/23/1999	3:30 PM	Flash Flood	0	0	15,000	0	Tonawanda Creek
Royalton Center	1/23/1999	10:00 PM	Flash Flood	0	0	35,000	0	Tonawanda Creek
Royalton Center	1/24/1999	8:05 AM	Flash Flood	0	0	15,000	0	Tonawanda Creek
Niagara Falls	11/2/1999	9:00 PM	Flash Flood	0	0	500,000	0	Urban Flooding
North Tonawanda	6/17/2002	2:30 PM	Flash Flood	0	0	50,000	0	Tonawanda Creek
NYZ001-003-003-010	3/18/2003	4:00 PM	Flood	0	0	275,000	0	Tonawanda Creek
Lewiston	7/20/2004	3:35 PM	Flash Flood	0	0	15,000	0	Urban Flooding
NYZ001>004-011>012-019>021-021	9/9/2004	3:00 AM	Flood	1	0	3,700,000	0	Tonawanda Creek

4. Hazards in Niagara County

Table 4-2 NOAA Recorded Flood Events for Niagara County between January 1993 and April 2006

Location or County	Date	Time	Type	Death	Injury	Property Damage (\$)	Crop Damage	County River/Streams/ Other Affected
NYZ001>003-003>005-007-007>008-011-013>014	4/2/2005	8:00 PM	Flood	0	1	600,000	0	Tonawanda Creek
Total:				1	1	6,780,000	0	

Source: NOAA NCDC August 9, 2006. <http://www4.ncdc.noaa.gov/cgiin/wwcgi.dll?wwEvent~storms>

Table 4-3 Niagara County Presidential Disaster Declarations for Flooding Events (1985 to 2005)

Type of Event	Date	Declaration Number	Cost of Losses (approx.)
Flooding and Ice Jams	March 1985	733-DR	\$350,000
Severe Storm and Flooding	July 2000	1335-DR	TBA
Severe Storm and Flooding	October 2004	1564-DR	\$1.8 million
Severe Storm and Flooding	April 2005	1589-DR	\$35 million

Source: FEMA website (http://www.fema.gov/news/disasters_state.fema?id=36); Kuma, Carolyn. March 23, 1985. "Area will receive federal disaster aid for February floods." Niagara Gazette.

Since 1978, Niagara County residents have reported a total of \$157,181 in NFIP insurance claims. Data from the NFIP has identified communities within Niagara County, which have had experienced the most damages due to flooding since 1978. The city of Lockport has reported the most costly flooding damage, totaling \$27,998 for only seven insurance claims. The city of Niagara Falls has had the most number of flood damage claims in the County; however, the 26 flood damage claims resulted in \$17,692 in policy payouts. These numbers indicate that the flooding resulting in property damage in the city of Niagara Falls was less severe but more widespread than flooding occurring in the city of Lockport. The town of Cambria accounted for the second most costly property damage. Table 4-4 details the NIFP insurance information for each jurisdiction within Niagara County.

Table 4-4 NFIP Insurance Report Data

Community	Number NFIP Policies	Coverage Total (\$)	Number of Claims since 1978	Policy Costs since 1978 (\$)
Village of Barker	7	754,100	1	1,438
Town of Cambria	3	369,200	9	25,240
Town of Hartland	4	570,500	0	0
Town of Lewiston	4	297,000	1	556
Village of Lewiston	0	0	2	3,307

4. Hazards in Niagara County

Table 4-4 NFIP Insurance Report Data

Community	Number NFIP Policies	Coverage Total (\$)	Number of Claims since 1978	Policy Costs since 1978 (\$)
City of Lockport	26	1,344,200	7	27,998
Town of Lockport	45	5,920,700	7	3,672
Village of Middleport	18	1,077,500	0	0
Town of Newfane	15	1,109,300	2	6,871
City of Niagara Falls	426	27,858,600	26	17,692
Town of Niagara	39	4,912,700	7	7,256
City of North Tonawanda	14	2,199,500	9	12,875
Town of Pendleton	15	1,559,100	1	11,040
Town of Porter	22	2,554,400	1	544
Town of Royalton	12	1,514,400	8	21,892
Town of Somerset	2	\$9,100	1	446
Town of Wheatfield	113	10,295,800	14	16,354
Town of Wilson	34	2,478,800	1	0
Village of Wilson	15	1,376,300	0	0
Village of Youngstown	4	510,300	0	0
County Totals	808	67,796,400	97	157,181

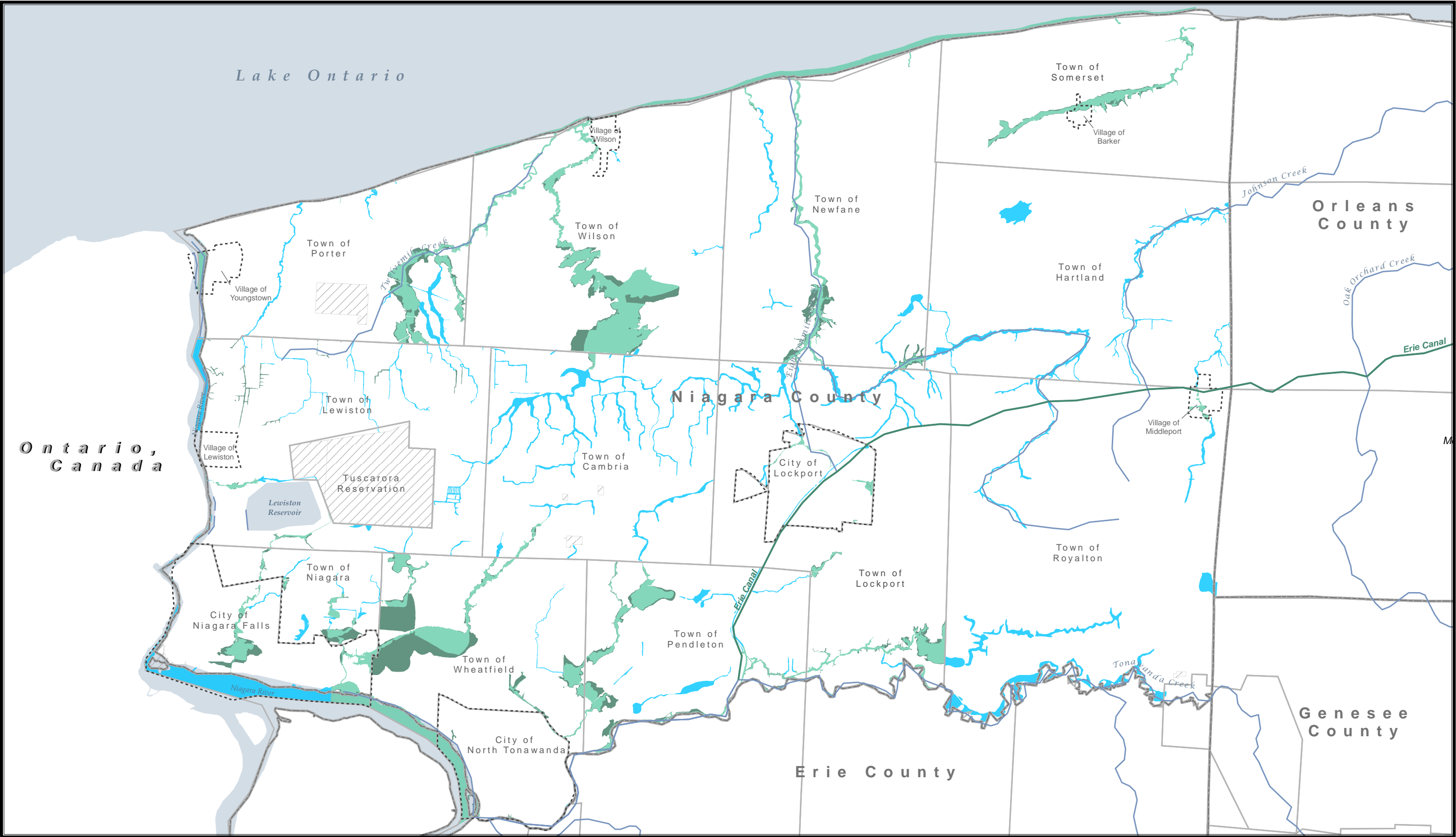
Source: NFIP Insurance Report by State, County, Community, New York, 2003.

Severity

Riverine flooding is expected to occur at least once per year and is associated with a warning period of at least one day. Flash flooding and urban flooding throughout Niagara County can occur with little warning, usually less than an hour. Recovery time for flooding events could take several days to several weeks. The severity of previous flood events shows that events tend to result in minor to moderate damage locally. Since 1978 flooding events in Niagara County have only resulted in property damage of \$157,181. Based on historical data for flooding in Niagara County, it is unlikely that serious injury or death will occur due to flooding. These factors have indicated that the hazard risk potential for floods in Niagara County is moderate.

Location

Niagara County has experienced flooding events along the Tonawanda Creek, due to riverine flooding, and in Niagara Falls, Lockport, and Lewiston due to urban flooding. It is expected that these areas could all be affected in the future, as well as other areas in floodplains and urban areas with inadequate drainage systems. See Figure 4-1 for the FEMA designated 100-year flood zones.



Source: Federal Emergency Management Agency 1983.

FEMA Flood Zone

Zone A

Zone AE

Zone X (500 Year)

Area not Included

Zone X

Town Boundary

Village Boundary

County Boundary

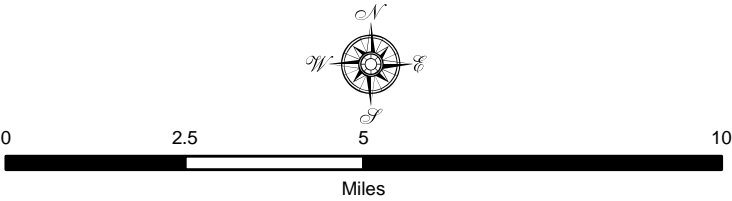


Figure 4-1
FEMA Flood Zones
Niagara County, New York

4. Hazards in Niagara County

4.2.1.2 Severe Winter Storm

A severe winter storm could include heavy snow, blizzard, or an ice storm (see Section 4.2.1.3). Heavy snows mean snowfall accumulating to 4 inches or more in 12 hours or less; or snowfall accumulating to 6 inches or more in 24 hours or less. A blizzard entails sustained winds of 35 miles an hour or greater and considerable falling and/or blowing snow for a period of at least three hours or longer. A severe winter storm will significantly impact transportation systems and public safety.

Probability of Occurrence

A winter storm system could develop any time from late fall to early spring and deposit snow, sleet, or freezing rain, locally or throughout the entire region. Based on annual normal snowfalls between 1971 and 2000, the majority of Niagara County can expect to receive between 75 and 100 inches annually, with the northeast corner of the County expecting less with only 50 to 75 inches annually. Winter storms are expected annually and can occur several times a year; therefore, all areas of Niagara County will continue to experience significant snow storm events each year, which could result in a Presidential Emergency Declaration.

Past Occurrences

According to NOAA's NCDC, Niagara County has had 52 recorded heavy snow events from January 1993 to April 2006. The total cost for those events including all areas affected was \$77.7 million in property damage and resulted in two injuries and one death. Table 4-5 details the information for all the snow events NOAA recorded since 1993.

Table 4-5 NOAA Recorded Snow Events for Niagara County between January 1993 and April 2006

Location or County	Date	Time	Type	Death	Injury	Property Damage	Crop Damage
NYZ001	1/15/1993	1500	Heavy Snow	0	0	50K	0
NYZ001 - 022	1/30/1993	1600	Heavy Snow	0	0	50K	0
NYZ001 - 002 - 003 - 005 - 021	2/16/1993	1700	Heavy Snow	0	0	50K	0
NYZ001	2/18/1993	300	Heavy Snow Squalls	0	0	50K	0
NYZ001 - 002 - 004 - 005 - 021	2/21/1993	2100	Heavy Snow	0	0	50K	0
NYZ001	2/23/1993	2100	Heavy Snow Squalls	0	0	50K	0
NYZ001 - 002 - 003 - 021 - 022	3/4/1993	2300	Heavy Snow	0	0	50K	0

4. Hazards in Niagara County

Table 4-5 NOAA Recorded Snow Events for Niagara County between January 1993 and April 2006

Location or County	Date	Time	Type	Death	Injury	Property Damage	Crop Damage
NYZ001 - 002 - 004 - 021	3/13/1993	1900	Blizzard	1	0	5.0M	0
NYZ001	12/24/1993	1100	Snow Squall	0	0	50K	0
NYZ001 - 002 - 011 - 012 - 014 - 022>025	1/4/1994	1700	Heavy Snow	0	0	50K	0
NYZ001>003 - 010 - 011 - 019	3/10/1994	200	Heavy Snow	0	0	50K	0
NYZ001	1/3/1995	1900	Heavy Snow	0	0	9K	0
NYZ001	1/3/1995	2100	Heavy Snow	0	0	9K	0
NYZ001>005 - 007 - 012 - 019 - 020	11/15/1995	630	Heavy Snow	0	0	7K	0
NYZ001>005 - 007 - 012 - 019 - 020	11/15/1995	700	Heavy Snow	0	0	25K	0
NYZ001	1/3/1996	8:00 AM	Winter Storm	0	0	200K	0
NYZ001>005 - 010>011 - 013	3/5/1996	6:00 PM	Winter Storm	0	0	63K	0
NYZ001>002 - 010>012 - 019>020	1/10/1997	10:00 AM	Heavy Snow	0	0	58K	0
NYZ001>002 - 004 - 007 - 010>014	3/6/1997	7:05 AM	Heavy Snow	0	0	81K	0
NYZ001>008 - 010>014 - 019>021	3/14/1997	3:00 AM	Winter Storm	0	0	196K	0
NYZ001>008 - 010>014 - 019>021	11/14/1997	7:30 AM	Heavy Snow	0	0	200K	0
NYZ001>002 - 007>008	1/15/1998	4:00 PM	Heavy Snow	0	0	30K	0
NYZ001>008 - 010>014 - 019>021	3/21/1998	9:50 AM	Heavy Snow	0	0	280K	0
NYZ001>008 - 010>014 - 019>021	1/2/1999	7:25 PM	Winter Storm	0	0	330K	0
NYZ001>002 - 006>008 - 010 - 010 - 010 - 010>012 - 012 - 019>020	1/4/1999	5:15 AM	Heavy Snow	0	0	270K	0
NYZ001>002 - 007>008 - 010>012	1/6/1999	6:00 PM	Winter Storm	0	0	105K	0
NYZ001 - 005>007 - 007>008 - 008 - 019	1/6/1999	7:00 PM	Heavy Snow	0	0	135K	0
NYZ001>008 - 010>011	1/9/1999	9:00 AM	Heavy Snow	0	0	190K	0
NYZ001>008 - 010>014 - 019>021	1/15/1999	7:10 AM	Winter Storm	0	0	290K	0

4. Hazards in Niagara County

Table 4-5 NOAA Recorded Snow Events for Niagara County between January 1993 and April 2006

Location or County	Date	Time	Type	Death	Injury	Property Damage	Crop Damage
North Tonawanda	1/16/1999	12:00 PM	Excessive Snow	0	0	50K	0
Royalton Center	1/16/1999	12:00 PM	Excessive Snow	0	0	75K	0
Lockport	1/17/1999	3:00 AM	Excessive Snow	0	0	40K	0
Lockport	1/17/1999	7:00 AM	Excessive Snow	0	0	75K	0
Hartland	1/17/1999	7:50 AM	Excessive Snow	0	0	100K	0
Royalton Center	1/17/1999	10:00 AM	Excessive Snow	0	0	65K	0
Lewiston	1/18/1999	7:00 AM	Excessive Snow	0	0	40K	0
North Tonawanda	1/18/1999	12:00 PM	Excessive Snow	0	0	100K	0
NYZ001>008 - 010>014 - 019>021	3/6/1999	1:00 PM	Heavy Snow	0	0	2.7M	0
NYZ001>008 - 010>014 - 019>021	2/14/2000	6:05 PM	Heavy Snow	0	0	320K	0
NYZ001>002 - 004>008 - 008 - 010>013 - 019>021	11/20/2000	10:00 AM	Heavy Snow	0	0	46.5M	0
NYZ001>002 - 004>005 - 007>008 - 010>012 - 019>020	12/6/2000	4:00 AM	Heavy Snow	0	0	151K	0
NYZ001>003 - 003>006 - 008 - 010 - 019>020	12/31/2000	7:00 AM	Heavy Snow	0	0	550K	0
NYZ001 - 010>012	12/24/2001	11:30 AM	Heavy Snow	0	0	14.3M	0
NYZ001>002 - 006>008 - 010>012 - 019>020	12/1/2002	7:00 AM	Heavy Snow	0	0	110K	0
NYZ001 - 012>013	12/16/2002	6:15 AM	Heavy Snow	0	0	30K	0
NYZ001 - 010>012	1/11/2004	10:15 PM	Heavy Snow	0	0	36K	0
NYZ001>006 - 010>014 - 019>021 - 085	3/16/2004	2:30 PM	Heavy Snow	0	0	3.4M	0
NYZ001>004 - 010 - 019>020	1/17/2005	4:40 AM	Heavy Snow	0	0	70K	0
52 NYZ001 - 010 - 012	1/19/2005	12:00 PM	Heavy Snow	0	0	30K	0
NYZ001>008 - 010>014 - 019>021 - 085	1/22/2005	2:00 PM	Heavy Snow	0	0	525K	0
NYZ001>003 - 010>011 - 014	3/1/2005	3:20 AM	Heavy Snow	0	0	60K	0
NYZ001 - 010 - 019>020 - 085	4/3/2005	7:30 AM	Heavy Snow	0	2	500K	100K
Totals:				1	2	77.67M	100K

Source: NOAA NCDC August 9, 2006. <http://www4.ncdc.noaa.gov/cgiin/wwcgi.dll?wwEvent~storms>

4. Hazards in Niagara County

The most costly event recorded during this time period was on November 20, 2000. This winter storm affected all of western and central New York State and resulted in \$46.2 million in property damage. The storm dropped over 2 feet of snow over the course of several hours throughout the area. Counties south of Niagara County had Presidential Emergency Declarations issued.

The most recent severe winter storm that resulted in a Presidential Emergency Declaration occurred in late December 2001. The storm affected western New York State and resulted in \$14.3 million in property damage. The storm dropped up to 5 feet of snow in some areas over the course of five days. States of emergency and driving bans were declared and the National Guard was called in to help with snow removal. Snowfall totals in Niagara County included North Tonawanda, 40 inches; Pendleton, 39 inches; Wheatfield, 31 inches; Middleport, 26 inches; Niagara Falls, 25 inches; Lewiston, 25 inches; and Lockport, 24 inches. Table 4-6 details the Presidential Emergency and Disaster Declarations issued for Niagara County since 1977.

Table 4-6 Niagara County Presidential Emergency/Disaster Declarations for Severe Snow Events (1977 to 2005)

Type of Event	Date	Declaration Number	Cost of Losses (approx.)
Snow Storm	February 1977	527-EM	\$26 million (not including economic losses)
Winter Storm	January 11, 1998	1196-DR	TBA
Winter Storm	January 1999	3136-EM	\$1.5 million
Snow Storm	January 2002	3170-EM	\$14 million

Source: FEMA Web site (http://www.fema.gov/news/disasters_state.fema?id=36), NOAA NCDC August 9, 2006. <http://www4.ncdc.noaa.gov/cgiin/wwwgi.dll?wwEvent~storms>

Severity

The onset of severe winter storms can occur with one day warning or longer and the duration can be one to two days. Recovery time varies based on the severity and duration of the storm, and generally can last for less than one day to one week. Snow storms have caused significant damage to property in the past and it is expected to continue in the future. Although it is unlikely that serious injury or death will occur in direct association with the storm, there is an indirect threat of injury and death due to car accidents. Due to the amount of property damage and indirect threats of injury and death associated with winter storms, this hazard has a high hazard risk rating.

4. Hazards in Niagara County

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for a severe winter storm occurrence (see Figure 4-2 for snowfall averages throughout the state).

4.2.1.3 Ice Storm

An ice storm is a severe winter storm, which results in damaging accumulations of ice. Significant accumulations of ice, usually .25 inch or greater, will pull down trees and utility lines resulting in loss of power and communication. These accumulations of ice make walking and driving extremely dangerous.

Probability of Occurrence

Ice storms can occur at any time from late fall to early spring. Since 1993 there have been three severe ice storms recorded by NOAA. Ice storms occur in Niagara County at least once every several years; therefore, the probability of an ice storm occurring in the area is inevitable.

Past Occurrences

According to NOAA'S NCDC, three ice storm events were recorded from 1993 to April 2006 causing a total of \$44 million in damage to property and crops. There have not been any incidents of ice storms that have resulted in a Presidential Disaster or Emergency Declaration in Niagara County. The most recent and severe winter storm recorded since 1993, affected most of western New York State. The ice storm resulted in \$37.2 million in damage to property and crops and one death. The ice accumulation of up to an inch downed trees, limbs, and power and telephone lines. The storm caused over 175,000 customers to lose power, in some areas for up to one week. Since the storm occurred in spring, there were significant losses to agricultural fruit trees throughout the area. Table 4-7 identifies all of the ice storms occurring in Niagara County since 1993.

Table 4-7 NOAA Recorded Ice Events for Niagara County between January 1993 and April 2006

Location or County	Date	Time	Type	Death	Injury	Property Damage (\$)	Crop Damage (\$)
1 NYZ001 - 022	1/13/1993	1:00 PM	Ice Storm	0	0	50,000	0
45 NYZ001>004 - 010>014 - 019	1/31/2002	7:30 AM	Ice Storm	0	0	6,800,000	0

4. Hazards in Niagara County

Table 4-7 NOAA Recorded Ice Events for Niagara County between January 1993 and April 2006

Location or County	Date	Time	Type	Death	Injury	Property Damage (\$)	Crop Damage (\$)
48 NYZ001>006 - 011 - 013>014	4/4/2003	8:17 AM	Ice Storm	1	0	28,600,000	8,600,000
Total:				1	0	35,450,000	8,600,000

Source: Source: NOAA NCDC August 9, 2006. <http://www4.ncdc.noaa.gov/cgiin/wwcgi.dll?wwEvent~storms>

Severity

The onset of an ice storm can be one to two hours with the duration of one to two days. Recovery from this hazard could take several days to one week depending on the duration and severity of the storm. Ice storms do not occur frequently; however, when an ice storm occurs, there is a high potential to cause significant damage to property and death. In the three events recorded there was one death and \$44 million in damage. There is also a potential for these storms to occur late in to the spring, which may cause harm to crops. Due to the infrequency of occurrences and the high potential to damage property the hazard risk rating for an ice storm is moderate to high.

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for an ice storm occurrence.

4.2.1.4 Ice Jam

Ice jams occurs when warm temperatures and heavy rain cause rapid snow melting. The melting snow combined with the heavy rain, causes frozen rivers to swell and break the ice layer apart. The ice then flows downstream and jams where the slope of the river changes from steeper to milder, where the moving ice meets an intact ice cover or near narrow passages, bridges, or dams.

Probability of Occurrence

Ice jams are most likely to occur in the early spring when ice on rivers and creeks begin to melt and break up due to the increasing temperature. When river ice piles up it blocks the flow of water and may cause flooding along the river/creek. Historically, there have been few occurrences of ice jams within Niagara County since 1964. Therefore, the probability of an event occurring is minimal.

Annual Snowfall Normals 1971-2000

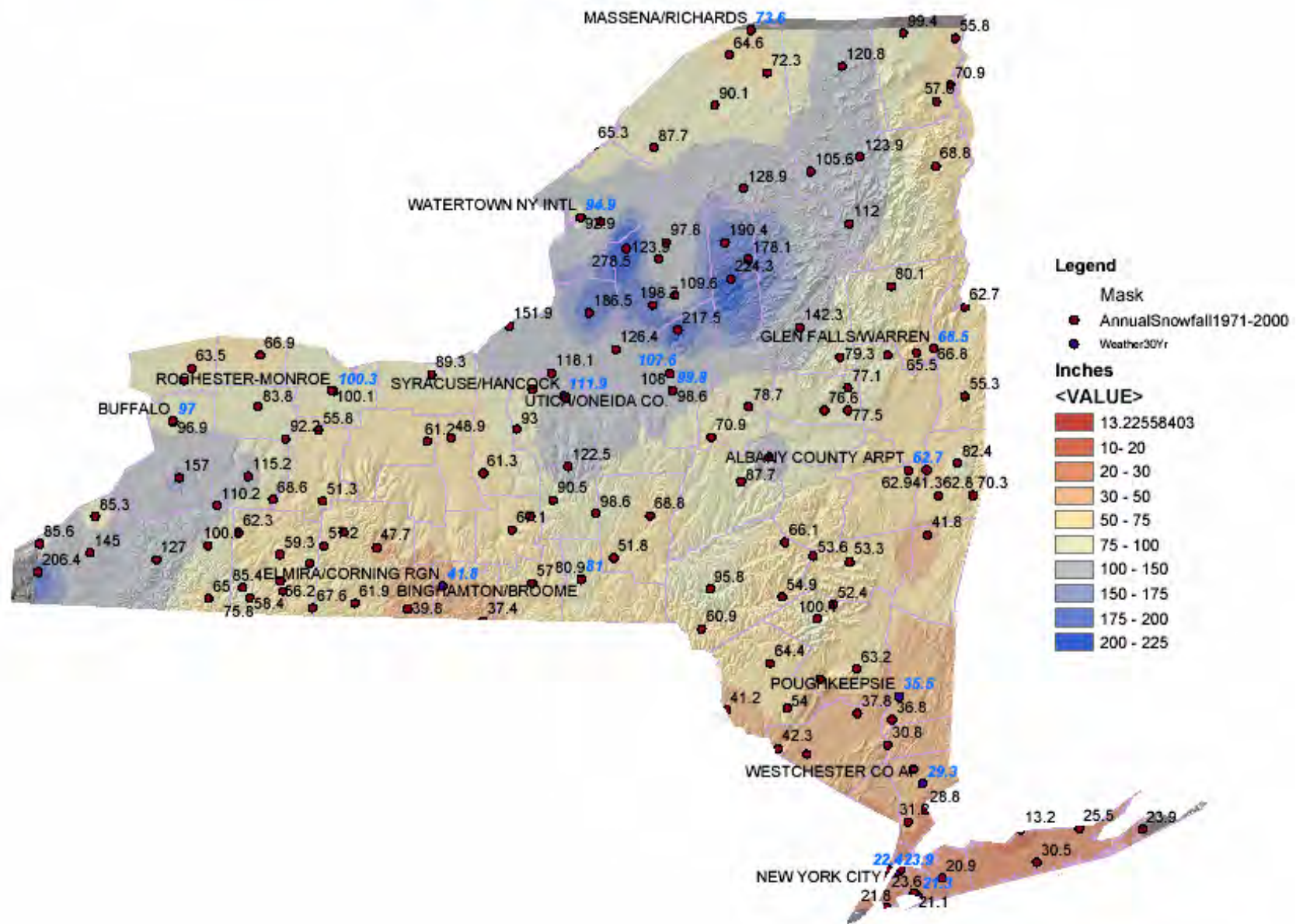


Figure 4-2 Annual Snowfall Normals, 1971-2000

4. Hazards in Niagara County

Past Occurrences

Historically, 17 ice jam events have occurred in Niagara County, with all but two occurring before the implementation of annual ice-booms on Lake Erie in 1964. The United States Corps of Army Engineers (USACE), Cold Region Research and Engineering Lab (CRREL) Ice Jam Database has recorded 14 ice jams events on the Niagara River and on the Tonawanda Creek 3 ice jams events in Niagara County and nine east of the County in Genesee County. Table 4-8 identifies all the ice jams recorded on the Niagara River and Tonawanda Creek by CRREL.

Table 4-8 Historical Ice Jams on Waterways located in Niagara County

Location	County	Waterway	Date	Jam Type	Damage
Tonawanda	Niagara	Niagara River	January 23, 1993	Break-up	Unknown
Grand Island, Tonawanda, Wheatfield	Niagara	Niagara River	January 19, 1985	Break-up	Severe flooding along Niagara River, Tonawanda and Ellicott Creeks
Tonawanda	Niagara	Niagara River	Winter 1964	Break-up	Unknown
Tonawanda	Niagara	Niagara River	Winter 1963	Break-up	Unknown
Tonawanda	Niagara	Niagara River	Winter 1962	Break-up	Unknown
Tonawanda	Niagara	Niagara River	Winter 1955	Break-up	Unknown
Niagara	Niagara	Niagara River	February 3, 1938	Unknown	Honeymoon Bridge Destroyed
Niagara Falls	Niagara	Niagara River	January 26, 1938	Break-up	Falls View Arch Bridge Destroyed
Niagara Falls	Niagara	Niagara River	Winter 1937	Break-up	Unknown
Niagara Falls	Niagara	Niagara River	Winter 1936	Break-up	Unknown
Lewiston	Niagara	Niagara River	February 1, 1936	Break-up	Summer Cottages destroyed
Niagara Falls	Niagara	Niagara River	Winter 1925	Break-up	Unknown
Niagara Falls	Niagara	Niagara River	Winter 1924	Break-up	Unknown
Niagara Falls	Niagara	Niagara River	April 7, 1909	Break-up	Ontario Hydro Station Flooded
Bushville	Genesee	Tonawanda Creek	January 21, 1999	Unknown	Road closing, Flooding
Batavia	Genesee	Tonawanda Creek	January 24, 1999	Unknown	Flooding
Alabama	Genesee	Tonawanda Creek	March 6, 1979	Unknown	Unknown
Alabama	Genesee	Tonawanda Creek	January 27, 1979	Unknown	Unknown
Lockport (Rapids)	Niagara	Tonawanda Creek	March 20, 1963	Unknown	Unknown
Lockport (Rapids)	Niagara	Tonawanda Creek	March 15, 1962	Unknown	Unknown
Alabama	Genesee	Tonawanda Creek	March 14, 1962	Unknown	Unknown
Lockport (Rapids)	Niagara	Tonawanda Creek	February 18, 1959	Unknown	Unknown
Batavia	Genesee	Tonawanda Creek	January 22, 1959	Unknown	Unknown
Alabama	Genesee	Tonawanda Creek	January 23, 1959	Unknown	Unknown

4. Hazards in Niagara County

Table 4-8 Historical Ice Jams on Waterways located in Niagara County

Location	County	Waterway	Date	Jam Type	Damage
Alabama	Genesee	Tonawanda Creek	February 5, 1957	Unknown	Unknown
Alabama	Genesee	Tonawanda Creek	February 27, 1956	Unknown	Unknown

Source: US Corps of Army Engineers, Cold Region Research and Engineering Lab Ice Jam Database
<http://www.crrel.usace.army.mil/ierd/ijdb/> Accessed August 14, 2006.

There was a Presidential Disaster Declaration issued for the ice jam and resulting flooding that occurred in January of 1985, which was due to the Blizzard of 1985 putting excessive strain on the ice booms on Lake Erie, resulting in the ultimate failure of the booms. Table 4-9 details the Presidential Disaster Declaration of the 1985 ice jam and flooding incident, which was the only presidential declaration issued in Niagara County for ice jams, since 1985.

Table 4-9 Niagara County Presidential Disaster Declarations due to Ice Jams

Type of Event	Date	Declaration Number	Cost of Losses (approx.) (\$)
Flooding and Ice Jams	March 1985	733-DR	350,000

Source: FEMA website (http://www.fema.gov/news/disasters_state.fema?id=36), Kuma, Carolyn. March 23, 1985. "Area will receive federal disaster aid for February floods." Niagara Gazette.

Severity

The onset of an ice jam can occur with little or no warning. The duration is usually less than one day and the recovery time generally lasts from one to two days. In recent ice jams occurring in Niagara County there has been little damage to private property and little or no structural damage to public facilities. Severe ice jams on the Niagara River have basically been eliminated as a result of the implementation of the ice-boom on Lake Erie. Since the annual implementation of the ice-boom on Lake Erie only two ice jams have occurred in Niagara County. Ice jams on the Tonawanda Creek tend to occur upstream in Genesee County, which results in little or no impact along the creek within Niagara County. An ice jam occurring in Niagara County is unlikely to cause serious injury or death. The hazard risk rating for ice jams is low, due to the reduced occurrence and severity of ice jams since the implementation of the ice booms in 1964.

Location

An ice jam could occur on any creek or river within Niagara County; however, historical data has showed that the only areas in Niagara County to be affected by ice jams have been along the Niagara River and Tonawanda Creek (most events occurring outside of Niagara County boundaries).

4. Hazards in Niagara County

4.2.1.5 Severe Storm

Severe storms include heavy precipitation, hail, lightening, thunderstorm, high wind, tornados, and possible hurricanes. A thunderstorm is a local storm, which is accompanied by lightening and thunder, gusty winds, heavy rain, and occasionally hail (tornado and high wind hazards are discussed in further sections). The National Weather Service classifies a thunderstorm as severe if it produces a tornado, winds greater than 57 miles per hour (mph) or hail three-quarter ($\frac{3}{4}$) inch in diameter or larger.

Probability of Occurrence

Severe storms can occur in Niagara County from early spring through late fall. On average a severe storm can occur in Niagara County approximately 11 times a year. Severe storms are expected to occur each year; therefore, Niagara County will continue to experience severe storms.

Past Occurrences

Since 1993, NOAA has recorded 153 severe storm events in Niagara County. These events have resulted in approximately \$7 million in property and crop damage and 14 injuries. Table 4-10 is a summary of severe storms events occurring in Niagara County since 1993.

The most severe lightening event experience in Niagara County occurred in August 2001, when lightening struck a senior home in Wheatfield, causing extensive damage to the building. During the same event, a mail carrier in Erie County was injured when struck by lightening. The property damage costs for this storm were estimated at \$200,000.

Table 4-10 Summary of Severe Storm Events Recorded by NOAA, 1993 through 2006

Hazard Type	Locations	Number of Recorded Events	Recorded Deaths	Recorded Injuries	Property Damage	Crop Damage
Lightning	Lewiston, Niagara Falls, Barker, Lockport	6	0	12	\$250,000	\$0
Hail	Porter, Wheatfield, North Tonawanda, Lockport, Newfane, Niagara Falls, Sanborn	39	0	0	\$1,295,000	\$1,340,000
Thunderstorm and High Wind	Throughout all of Niagara County	108	0	2	\$1,732,000	\$2,200,000
Total:		153	0	14	\$3,277,000	\$3,540,000

Source: NOAA NCDC August 9, 2006. <http://www4.ncdc.noaa.gov/cgiin/wwwcgi.dll?wwEvent~storms>

4. Hazards in Niagara County

In late September 1998, a severe storm, which included a thunderstorm with torrential rains and 4-inch diameter hail, caused over \$1 million in damage to property and crops. This storm moved over Erie, Niagara, and Orleans counties, causing damage in all areas. Earlier that month, a severe thunderstorm and high wind event caused \$2 million in crop damage and \$250,000 in property damage. This damaging storm caused damage along a 100-mile long and 5 to 10-mile wide area in Niagara, Orleans, Monroe, Wayne, Ontario, and Cayuga Counties. Winds were estimated between 80 and 100 miles an hour, causing extensive damage to trees, crops, buildings, and power lines.

Three severe storms since 1995 have resulted in issuance of Presidential Disaster Declarations (see Table 4-11). These severe storms were heavy rain events, which resulted in flooding throughout the area.

Table 4-11 Niagara County Presidential Disaster Declarations for Severe Storm Events (1995 to 2005)

Type of Event	Date	Declaration Number	Cost of Losses (approx.)
Severe Storm and Flooding	July 2000	1335-DR	TBA
Severe Storm and Flooding	October 2004	1564-DR	\$1.8 million
Severe Storm and Flooding	April 2005	1589-DR	\$35 million

Source: FEMA website (http://www.fema.gov/news/disasters_state.fema?id=36)

Severity

These storms can occur with little or no warning and last anywhere from an hour to one day. Recovery from a severe storm can last one to three days depending on duration and severity of the storm. For all NOAA-recorded severe storm events the damage to property and crops has totaled \$7 million, which resulted in 14 injuries. Since severe storms occur often and the damage can result in extensive property damage the hazard risk rating is moderate to high.

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for severe storm event. The areas within the County with the greatest potential impacts are mobile home communities, vehicles, older buildings, power and utility grids and areas near rivers, creeks or ponds that may be flooded as a result of heavy rains associated with the storms.

4. Hazards in Niagara County

4.2.1.6 High Wind

The National Weather Service considers high winds to be sustained winds of 40 mph or greater, lasting for 1 hour or longer, or winds of 60 mph or greater, existing for any duration of time. These storms occur alone or can be associated with a thunderstorms, tornados, hurricanes, or winter storms.

Probability of Occurrence

High wind storms can occur year round in Niagara County, although the majority occur from early spring through late fall. Niagara County is located in FEMA's Wind Zone 3, which has possible high winds of up to 200 mph (see Figure 4-3 and Figure 4-4). Table 4-12 summarizes NOAA high wind events from 1993 to 2006.

Table 4-12 Summary of High Wind Events recorded by NOAA, 1993 to 2006

Hazard Type	Locations	Number of Recorded Events	Recorded Deaths	Recorded Injuries	Property Damage	Crop Damage
Thunderstorm and High Wind	Throughout Niagara County	108	0	2	\$1,732,000	\$2,200,000
High Wind only	Throughout Niagara County	27	3	19	\$29,160,000	\$200,000
Total:		135	3	21	\$30,892,000	\$2,400,000

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for a high wind occurrence. The areas within the County with the greatest potential impacts are mobile home communities, vehicles, older buildings, power lines, and utility grids, which are vulnerable to high winds.

4.2.1.7 Tornado

A tornado is a violently rotating column of air, which is in contact with the ground and the cloud base. Tornadoes can range in wind speed from 40 to 400 mph, and the vortex of the funnel can reach up to several hundred yards wide.

Probability of Occurrence

Tornadoes are not common throughout New York State. Tornadoes that do occur in New York State are limited and are localized, and tend to occur from late spring to late summer. Historical data for tornadoes in Niagara County has determined that the rate of occur-

4. Hazards in Niagara County

rence is only one tornado roughly every 15 years; therefore, the probability of an occurrence is minimal.

Past Occurrences

NOAA has only recorded four tornado events in Niagara County since 1950. Of those events two were of magnitude F1, both of which occurred over 35 years ago, and two were of magnitude F0. These tornadoes did not result in any injuries or deaths, and caused \$128,000 in property damage. There is no detailed information available about the location and duration of the two F1 tornadoes that occurred in the 1960s. However, the wind speeds recorded for a F1 tornado could result in moderate damage including roof damage; mobile homes overturned; outbuildings demolished; moving autos pushed off the roads; and trees snapped or broken.

The two F0 tornadoes reported in 1994 were both identified in Lockport and only touched down for a very short period. The worse tornado of the two, which occurred on August 25, 1994, touched down for 2 miles and the estimated width of destruction was 30 yards (see Table 4-13). This tornado was confined to one property where trees were downed and windows broken causing \$50,000 in damage.

Table 4-13 Tornado Events Reported by NOAA in Niagara County, 1950 to 2006

Location	Date	Time	Type	Magnitude	Death	Injury	Property Damage (\$)	Crop Damage
Niagara County	09/03/1963	1640	Tornado	F1	0	0	3,000	0
Niagara County	07/26/1969	1105	Tornado	F1	0	0	25,000	0
Lockport	08/25/1994	1405	Tornado	F0	0	0	50,000	0
Lockport	08/28/1994	1210	Tornado	F0	0	0	50,000	0
Totals:					0	0	\$128,000	0

Severity

Tornadoes can occur with little or no warning. The duration is several hours to one day and the recovery time generally lasts from one day to one week. Based on historical data, it is unlikely that serious injury or death will occur. Due to the localized impact of a tornado there is usually little or no damage, structure or otherwise, to private property or public facilities.

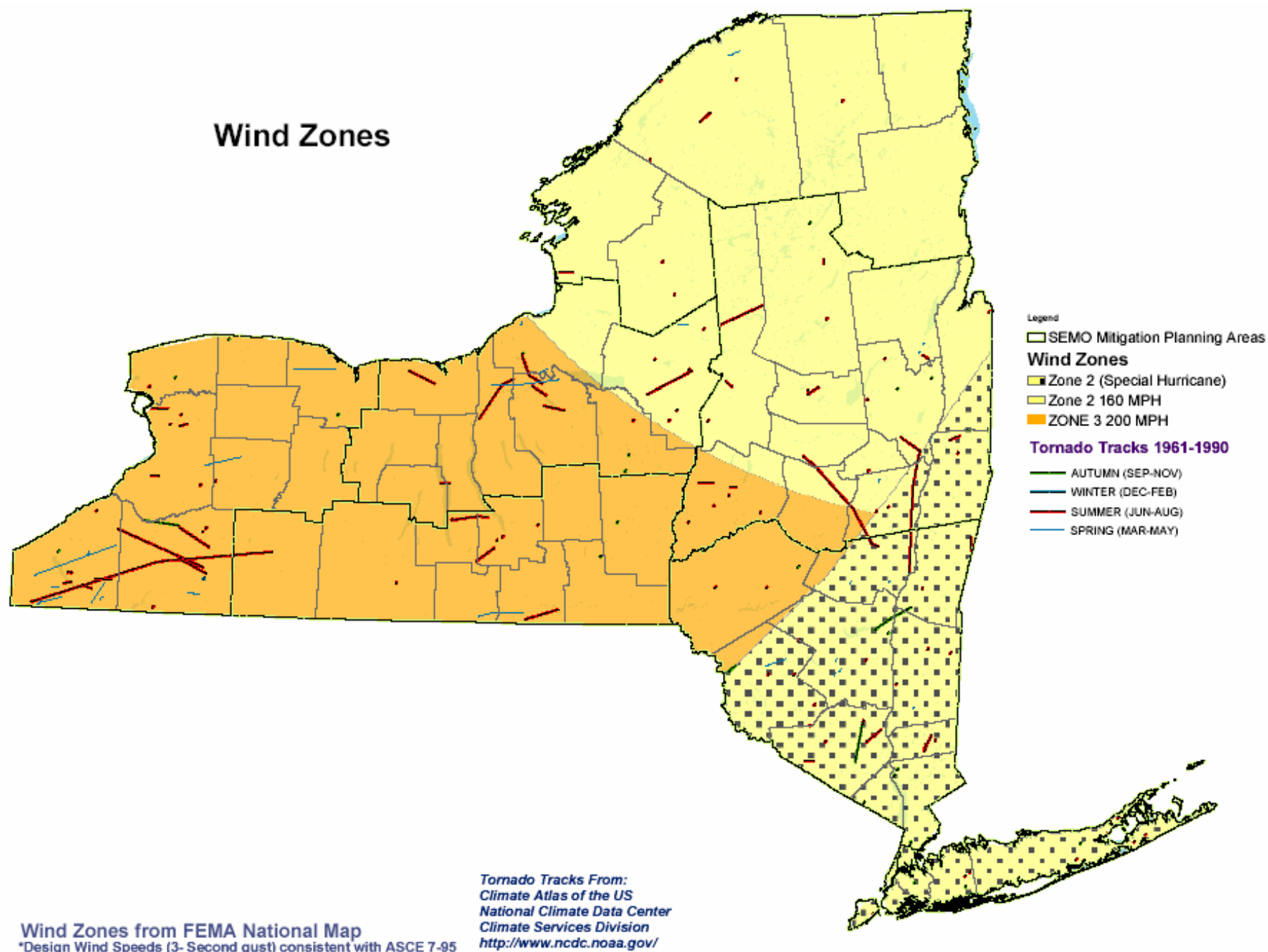
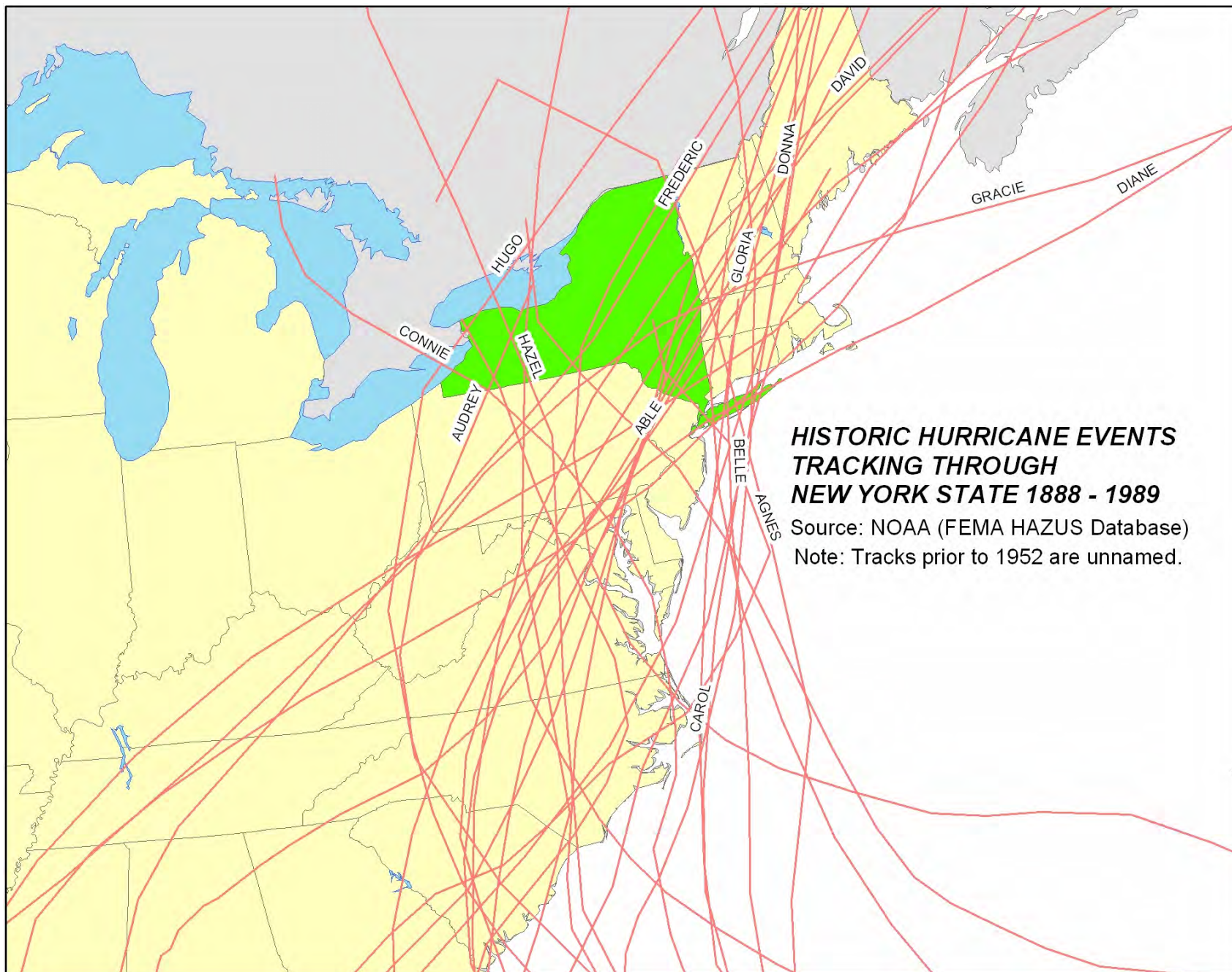


Figure 4-3 New York State Wind Zones



*Note: Not indicative of hurricane classification during track through New York

Figure 4-4 Historic Hurricane Events Tracking through New York State 1888-1989

4. Hazards in Niagara County

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for a tornado occurrence. The areas within the County with the greatest potential impacts are mobile home communities, vehicles, older buildings, power lines, and utility grids, which are vulnerable to the high winds associated with tornadoes.

4.2.1.8 Earthquake

An earthquake is a sudden shaking of the ground caused when masses of rock straining against one another suddenly fracture and “slip.” Earthquakes occur most often along geologic faults, where rock masses move in relation to one another.

Probability of Occurrence

There is the potential for earthquakes to occur throughout New York State and northeastern United States. Figure 4-5 shows the New York State Earthquake Hazard Map. Figure 4-6 shows past earthquake events. The map identifies the Percent Peak Ground Acceleration (%PGA) values for New York State with a 10% chance of being exceeded over 50 years. The %PGA is a common earthquake measurement that shows three things: the geographic area affected, the probability of an earthquake of each given level of severity (10% chance in 50 years), and the strength of ground movement (severity) expressed in terms of percent of the acceleration force of gravity (%g).

The majority of southwestern Niagara County has a 10% chance that the Peak Ground Acceleration (PGA) of 4% of gravity will be exceeded in the next 50 years, and northeastern portion of the County has a PGA of 3%. Using historical information to predict future occurrences, it was determined that New York State can expect damaging earthquake events on average only once every 22 years. Therefore, the probability of the occurrence of this hazard with the planning area is moderate.

Past Occurrences

Since 1730 there were more than 400 earthquakes with a magnitude greater than two were reported to have occurred within New York State. Table 4-14 has identified 20 of these earthquakes, which caused significant damage. The largest known earthquake in New York State occurred on September 5, 1944, in northern New York. This earthquake caused over \$2 million in damage, causing the destruction of 90% of the chimneys in the Massena and Cornwall area and significant damage to masonry, plumbing, and

4. Hazards in Niagara County

foundations. This was the only magnitude 6.0 or greater earthquake known to have occurred within New York State.

Table 4-14 Historical Earthquakes Felt in New York State, 1737 through 2002

Date	Location	Modified Mercalli Intensity	Magnitude	Description/Damage
December 18, 1737	New York City	VI	5.0*	Downed several of chimneys. Was felt at Boston, Philadelphia, and at New Castle, Delaware
March 12, 1853	Lowville	VI	4.8*	No information
October 23, 1857	Buffalo	V	4.6*	Walls vibrated, bells rang, and objects fell from shelves. At Lockport, rumbling noises were heard for a full minute. Area covered approximately 46,000 square kilometers.
December 18, 1867	Canton	VI	4.8*	Machinery was knocked down.
December 11, 1874	Tarrytown	VI	4.8*	No information
November 4, 1877	Northeastern New York State	VII	Not Reported	Caused moderate damage along the St. Lawrence River and Lake Champlain area. Crockery was overturned, ceilings cracked, and chimneys were thrown down, buildings were shaken, windows broken and a roaring sound was heard. Area covered about 233,000 square kilometers.
August 10, 1884	Rockaway Beach (NYC)	VI	5.3*	Caused large cracks in walls, fallen bricks, and cracked plaster. Area covered an 181,000 square kilometers.
May 28, 1897	Plattsburgh	VI	Not Reported	No damage reported
March 18, 1928	Saranac Lake	VI	4.5*	Dishes fell from shelves and people rushed from their houses. Was felt in northeast New York and probably in Canada.
August 12, 1929	Attica	VII	5.2	Two hundred and fifty chimneys were thrown down, plaster was cracked or thrown down, building walls were damaged, and cemetery monuments fell or were twisted. An increased flow at the Attica reservoir was noted for several days and a number of wells went dry. Area covered about 250,000 square kilometers.
April 20, 1931	Warrensburg	VII	4.5	Threw down many chimneys, walls were cracked, dishes broken, clocks stopped and a church spire twisted. A small landslide was reported. Area covered over 155,000 square kilometers

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Table 4-14 Historical Earthquakes Felt in New York State, 1737 through 2002

Date	Location	Modified Mercalli Intensity	Magnitude	Description/Damage
April 15, 1934	Dannemora	VI	4.5	House shifted off its foundation.
September 5, 1944	Massena	VIII	6.0	Caused estimated \$2,000,000 damage. Destroyed or damaged about 90% of the chimneys at Massena and Cornwall. Masonry, plumbing, and house foundations were damaged, a large number of wells went dry and some ground cracking was noticed. Area covered 450,000 square kilometers.
September 5, 1944	Massena	V	4.5	No information
January 1, 1966	Attica	VI	4.6	Caused slight damage to chimneys and walls, plaster fell at the Attica State Prison and the main smokestack was damaged. Area covered 46,500 square kilometers.
June 13, 1967	Attica	V	4.4	Plaster fell, chimneys cracked, and light fixtures were damaged. This shock was felt over a small area of western New York.
October 7, 1983	Newcomb	VI	5.1	Damage included cracked chimneys, tombstones slid or rotated; minor cracks walls, broken dishes or glassware, and overturned or fallen objects. Several landslides were reported. Was felt in two Provinces in Canada and 12 States.
October 19, 1985	White Plains	V	4.0	Windows were broken, plaster and dry-wall also were cracked and glassware was broken, light damage was sustained at a few towns in Connecticut, New Jersey, and New York. Felt over a large area of Connecticut, Massachusetts, New Jersey, New York, and Pennsylvania.
June 17, 1991	Summit	V	4.1	No information
March 22, 1994	Cuylerville	VI	3.6	Caused roof collapse at salt mine.

Source: 2003 New York State Statistical Yearbook, pg. 582., compiled by NYSED, NYS Geological Survey; "Earthquake History of New York State", Earthquake Information Bulletin, Volume 7, Number 4, July - August 1975, by Carl A. von Hake; Earthquake Data for New York State, Carl W. Stover and Jerry Coffman.

Key:

* = Estimated.

Western New York has only experienced four earthquakes causing damage, three of which were centered in Attica, Wyoming County, and one was centered in Buffalo, Erie County. It is unknown whether any of these earthquakes caused damage to locations within Niagara County. The worst earthquake centered in western

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New York occurred on August 12, 1929. This earthquake was of a magnitude 5.2 and caused damage to hundreds of chimneys, plaster was cracked or thrown down, building walls were damaged, and cemetery monuments fell or were twisted. An increased flow at the Attica reservoir was noted for several days after the earthquake and a number of wells went dry.

Severity

Earthquakes can occur with little or no warning. The duration of earthquakes experienced in western New York is usually less than one day and the recovery time generally less than one day. It is unlikely that serious injury or death will occur.

Although there is no information about earthquakes causing damage within Niagara County, earthquakes that may occur or are felt within the County are likely to cause little or no damage, structure or otherwise, to private property or public facilities. The hazard risk rating for this hazard is low.

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for an occurrence.

4.2.1.9 Landslide

A landslide is the downward movement of masses of rocks, earth, or debris. Landslides are activated by rainstorms, fire, earthquakes, volcanic eruptions, and human alteration to the land. Rock slides, slumps, mudslides and earthflows are several types of landslides, which only vary by the content and flow.

Probability of Occurrence

The majority of Niagara County is in an area of moderate susceptibility and low incidents of landslide occurrences (see Figure 4-7). A small area in the southwest portion of the County has high incidences of landslides and the northwest portion in Somerset and Newfane along Lake Ontario have a moderate susceptibility of landslides. According to the New York State Standard Multi-Hazard Mitigation Plan, Niagara County is ranked number one for the highest susceptibility to landslides compared to all other counties in New York State. Therefore the probability of an occurrence is moderate.

EARTHQUAKE HAZARD

Peak Ground Acceleration - PGA
% of gravity 10 % exceedence in 50 years

source: USGS

PGA (% of gravity)

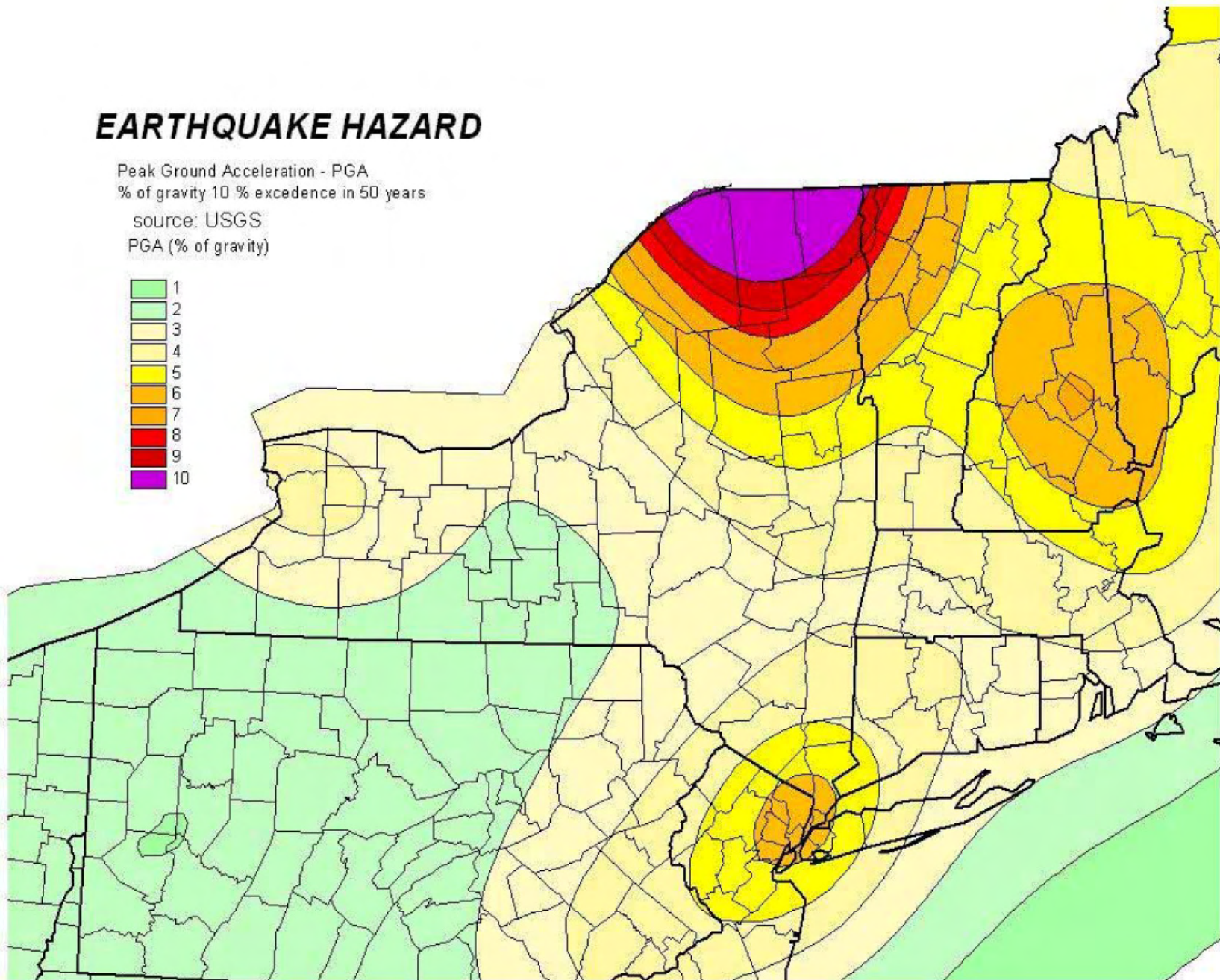
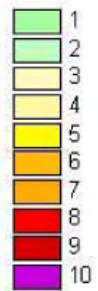


Figure 4-5 Earthquake Hazard

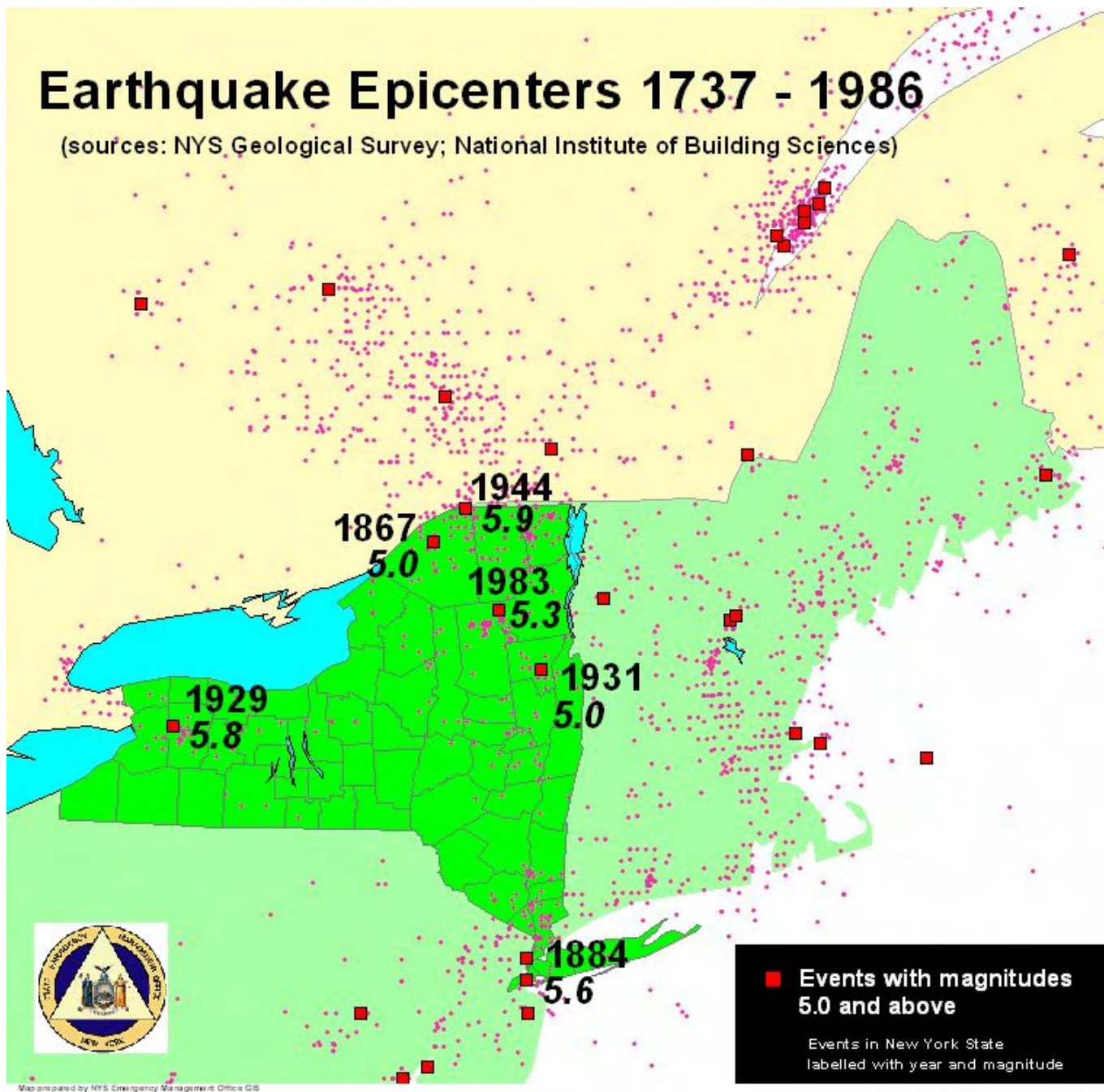
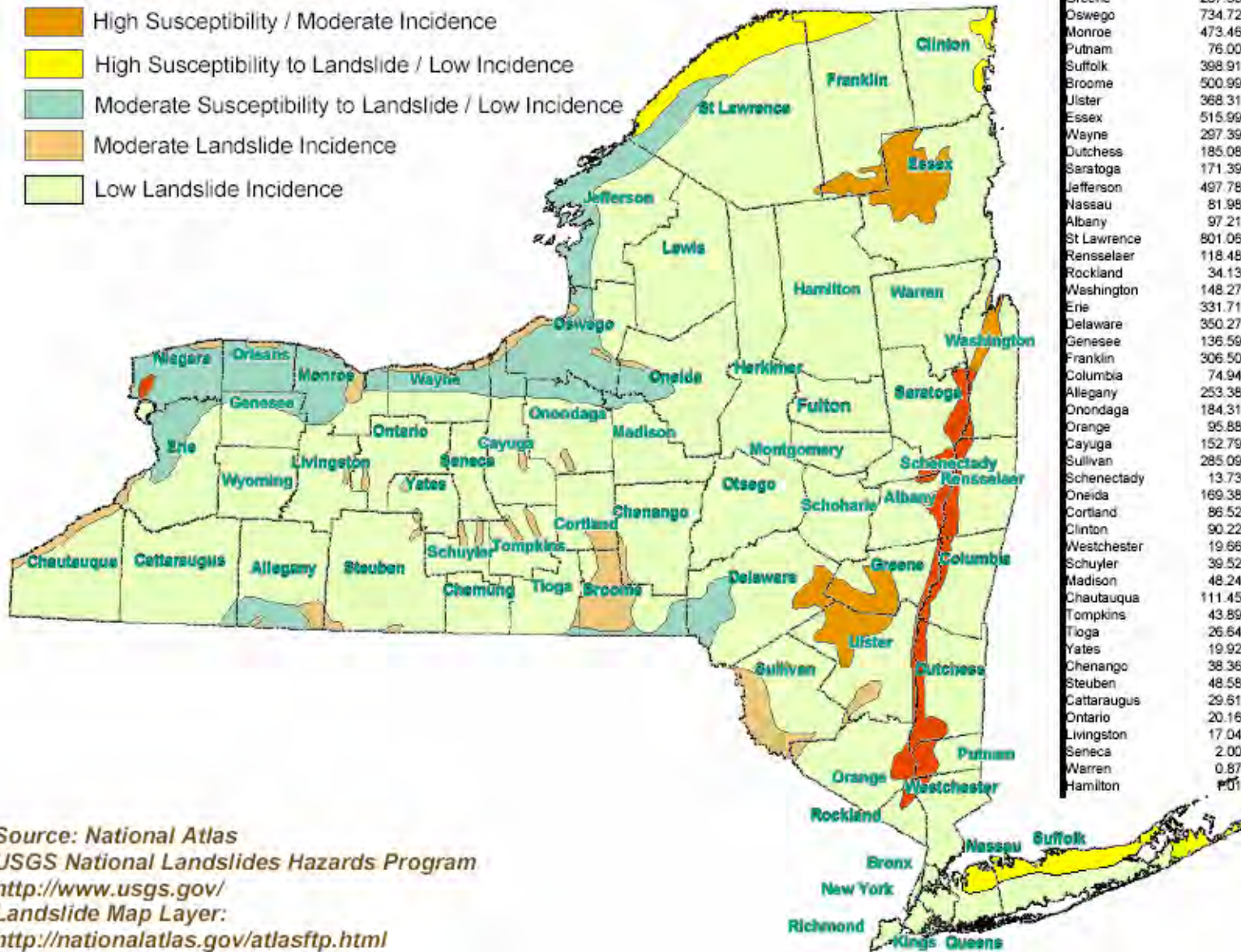


Figure 4-6 Earthquake Epicenters 1737-1986

DRAFT

Landslide Susceptibility

- High Landslide Incidence
- High Susceptibility / Moderate Incidence
- High Susceptibility to Landslide / Low Incidence
- Moderate Susceptibility to Landslide / Low Incidence
- Moderate Landslide Incidence
- Low Landslide Incidence



Weighted Rank =
Sum (% Polygon Area x LSRank)

COUNTY	Total_Area Sq. Mi In	TotAreaIn	Weighted Rank
Niagara	515.92	97.80%	3.04
Orleans	389.90	99.12%	2.93
Greene	287.33	43.70%	2.27
Oswego	734.72	72.44%	2.10
Monroe	473.46	71.38%	2.05
Putnam	76.00	30.90%	1.85
Suffolk	398.91	43.36%	1.73
Broome	500.99	70.05%	1.60
Ulster	368.31	31.74%	1.49
Essex	515.99	28.16%	1.41
Wayne	297.39	49.05%	1.37
Dutchess	185.08	22.45%	1.35
Saratoga	171.39	20.32%	1.22
Jefferson	497.78	38.67%	1.16
Nassau	81.98	28.52%	1.14
Albany	97.21	18.24%	1.09
St Lawrence	801.05	29.03%	1.07
Rensselaer	118.48	17.81%	1.07
Rockland	34.13	17.12%	1.03
Washington	148.27	17.62%	0.92
Erie	331.71	31.64%	0.92
Delaware	350.27	23.88%	0.87
Genesee	136.59	27.56%	0.83
Franklin	306.50	18.09%	0.81
Columbia	74.94	11.57%	0.69
Allegany	253.38	24.48%	0.67
Onondaga	184.31	22.90%	0.66
Orange	95.88	11.45%	0.58
Cayuga	152.79	20.81%	0.58
Sullivan	285.09	28.62%	0.57
Schenectady	13.73	6.55%	0.39
Oneida	169.38	13.48%	0.39
Cortland	86.52	17.27%	0.35
Clinton	90.22	8.56%	0.34
Westchester	19.66	4.15%	0.25
Schuyler	39.52	11.54%	0.23
Madison	48.24	7.30%	0.22
Chautauque	111.45	10.25%	0.21
Tompkins	43.89	8.93%	0.18
Tioga	26.64	5.10%	0.13
Yates	19.92	5.30%	0.11
Chenango	38.36	4.27%	0.09
Steuben	48.58	3.46%	0.07
Cattaraugus	29.61	2.24%	0.07
Ontario	20.16	3.04%	0.06
Livingston	17.04	2.66%	0.06
Seneca	2.00	0.51%	0.01
Warren	0.87	0.09%	0.01
Hamilton	0.01	0.06%	0.00

Source: National Atlas
USGS National Landslides Hazards Program
<http://www.usgs.gov/Landslide Map Layer:>
<http://nationalatlas.gov/atlasftp.html>
Adapted from Oct 2004 NYS Hazard Mitigation Plan

Figure 4-7 Landslide Susceptibility

4. Hazards in Niagara County

Past Occurrences

The New York State Geologic Survey has only recorded five landslide events in Niagara County from 1837 to 1988 (see Table 4-15).

Table 4-15 Niagara County Fatal Landslide Incidents (1837-1988)

Date	Fatalities	Description
1905	1	Rockfall at Niagara Gorge killed a trolley driver
July 1, 1917	12	Railroad embankment slide in the Niagara Gorge, train toppled into river
September 6, 1920	3	Rockfall near the Cave of the Winds
June 7, 1956	1	Three large rockfalls in the Niagara Gorge; Destroyed the Schoellkopf Power Station
Total:	17	

Source: Landslide Inventory Map of New York pub. 1989, produced by NYSGS.

Severity

Landslides can occur with little or no warning and last anywhere from an hour to several days. Recovery from a landslide can last one day to several weeks depending on type and duration of the landslide. Historically, 17 deaths have been attributed to landslides in Niagara County. The Hazard Risk rating for this hazard is low due to the infrequency of landslide events within Niagara County.

Location

All of Niagara County is an area of moderate susceptibility for landslides; however areas within the County with the greatest slopes are more likely to experience a landslide event. Areas within the County with steep slopes occur along the Niagara Gorge and Niagara Escarpment in Lewiston.

4.2.1.10 Coastal Erosion

Coastal erosion is the wearing away of coastal land including the loss of subaerial landmass into a lake due to natural processes such as waves, winds and tides, or even due to human interference. Large storm-generated waves typically cause coastal erosion, which may take the form of long-term losses of sediment and rocks or merely in the temporary redistribution of coastal sediments. On rocky coasts, coastal erosion can result in dramatic rock formations in areas where the coastline contains stones with different resistances to erosion.

Probability of Occurrence

Assessments of shoreline stability are now conducted as short-term or single-purpose projects that are neither regional nor national in

4. Hazards in Niagara County

scope. Local assessments have not been completed to date. However, poorly designed or sited development can lead to erosion, while measures to control erosion in one place may exacerbate it in others and may have significant environmental impacts of their own. Accretion may also create problems, as when inlets fill in, interfering with navigation. Also, many experts predict that continued global warming will be accompanied by rising sea levels, resulting in increased coastal erosion worldwide.

Past Occurrences

At the time this plan was developed, no data was available documenting the erosion that occurs on Lake Ontario and along the Niagara River.

Severity

Coastal erosion costs hundreds of millions of dollars a year nationwide, including damage caused by storms and flooding, costs of erosion prevention, and expenses to dredge channels and harbors. On sedimentary coasts, coastal erosion typically poses a danger to residences and other man made structures. Human interference can increase coastal erosion due to dredging, construction, or other such activities.

Location

Coastal erosion is a significant concern in Niagara County along the Niagara River and Lake Ontario, and along the Niagara Escarpment that transects the County. Several local communities experience flooding due to the erosion of creek beds or similar land formations, however, this hazard has been considered in the hazard profile for flooding.

4.2.2 Man-made Hazard Profiles

The intrinsic differences between natural and man-made hazards required that the Planning Team develop the man-made hazard profiles below using very different criteria for determining the probability of occurrences and potential severity and location of the hazard event than those used for the development of the natural hazard profiles presented above. Because man-made hazards, especially terrorism, are often unforeseeable it is difficult to project the nature of the hazard, its probability of occurrence and potential to cause damage. Rather than focusing on the details of a potential man-made hazard event, the Planning Team has considered the ways in which each man-made hazard could impact the built environment within the County including the application mode, duration, dynamic or static characteristics and mitigating conditions of a potential man-made hazard event. In order to estimate the sever-

4. Hazards in Niagara County

ity and location of a potential man-made hazard, the Planning Team has utilized an asset-specific approach, identifying potentially at-risk facilities from the Critical Infrastructure Database.

4.2.2.1 Hazardous Materials - In Transit

A hazardous material release can occur during production, storage, transportation, use, or disposal. For this section only hazardous material hazards that occur during transportation are considered. Hazardous materials, such as explosives, flammable and combustible substances, poisons, and radioactive materials, are shipped daily on the highways, railroads, waterways, and airways. A release of a hazardous material while being transported can cause death, serious injury, and damage to nearby buildings, land, waterways, and air.

Probability of Occurrence

In Niagara County over the past five years there has been an average of approximately six hazardous material incidents occurring during transportation each year. Therefore, the probability of a hazardous material event occurring is inevitable.

Past Occurrences

The United States Department of Transportation (USDOT) recorded 15,796 hazardous material incidents in transit throughout the United States in 2005. The total damage costs for these incidents totaled \$50 million. Ground transportation caused 85% of the incidents, resulted in 71% of the deaths, and 72% of the damage costs. Although only accounting for approximately 5% of the incidents, rail incidents caused 73% of the injuries, 29% of the deaths and 27% of the damage costs. Refer to Table 4-16 for detailed information of the transportation-related incidents recorded nationwide in 2005.

Table 4-16 United States In-Transit Hazardous Material Incidents Summary for 2005

Mode of Transportation	Number of Incidents	Number of Fatalities	Number of Injuries	Damages (\$)
Air	1,655	0	78	199,819
Ground	13,336	24	171	36,772,632
Rail	737	10	685	13,861,371
Water	68	0	0	114,000
Total	15,796	34	934	50,947,819

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 8/2/2006.

According to the Hazardous Substances Emergency Events Surveillance Cumulative Report, by the Agency for Toxic Substances

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and Disease Registry (ATSDR), the New York State Department of Health (NYSDOH) reported a total of 3,361 hazardous material incidents in New York State, from 1998 to 2001. Of the incidents reported, 19% occurred during transportation and 13% caused significant injury or death. Transportation-related incidents reported cause five deaths during the three-year reporting period. The most commonly reported hazardous materials involved were volatile organic compounds, other inorganic substances, acids, and pesticides.

In Niagara County, since January of 2001, 38 in-transit hazardous material release incidents occurred. Of the transportation related hazardous material incidents in Niagara County 76% occurred during ground transportation, 8% occurred on water, 8% on railroads and 3% occurred in air. These occurrences by mode of transportation are comparable to the national incidents recorded for 2005. Since there is no cost damage data for Niagara County, it should be expected that costs would be on scale of those reported nationally. Of the Niagara County incidents from January 2001 to August 2006, 13 injuries and one death was reported, all of which were associated with ground transportation. Refer to Table 4-17 for detailed information regarding the incident locations and materials released. A map of all hazardous materials incidents is shown in Figure 4-8.

Table 4-17 In-Transit Hazardous Material Incidents, January 2001 to August 2006

Incident Date	Type of Incident	Location	Suspected Responsible Company	Medium Affected	Injuries/ Deaths Recorded	Material Name
6/7/2006	Mobile	1550 Balmer Road, Model City	A1 Land Care Inc.	Water	0/0	Oil and Gas Mix- ture
5/11/2006	Mobile	Hartland Road and Slayton Settlement Road, Royalton	(Null)	Water	0/0	Oil: Diesel
5/9/2006	Vessel	Coast Guard Station Niagara Pier USCG Station	United State Border Patrol	Water	0/0	Hydraulic Oil
5/6/2006	Railroad	CSX Railroad 2950 29th Street, Niagara Falls	CSX Railroad	Land	0/0	Oil: Diesel
4/14/2006	Vessel	43 Detroit Street, North Tonawanda	Herbert F. Darling Contractor	Water	0/0	Oil: Diesel
2/16/2006	Mobile	Cornerseaman and Quaker Road Route 148, Lockport	(Null)	Land	1/0	Oil, Misc.: Mo- tor
1/30/2006	Mobile	71st and Buffalo Ave- nue, Niagara Falls	(Null)	Land	0/0	Oil, Fuel: No. 1-D
1/2/2006	Mobile	In front of address location 6716 Minnick Road, Lockport	(Null)	Land	0/0	Gasoline: Auto- motive (Unleaded)

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Table 4-17 In-Transit Hazardous Material Incidents, January 2001 to August 2006

Incident Date	Type of Incident	Location	Suspected Responsible Company	Medium Affected	Injuries/ Deaths Recorded	Material Name
12/22/2005	Mobile	Dysinger Road, Lockport	(Null)	Land	0/0	Oil: Diesel
9/12/2005	Mobile	Corner of Veterans Drive and Buffalo Avenue, Niagara Falls	Freeport Transportation	Land	0/0	Coke Dust
5/20/2005	Mobile	South Transit and Bartz Road, Lockport	Professional Turf Services	Land	0/1	Sulfuric Acid
11/2/2004	Mobile	The River Side Inn, 115 South Water Street, Lewiston	(Null)	Water	0/0	Oil: Diesel
11/2/2004	Mobile	130 North Water, Lewiston	(Null)	Water	0/0	Oil, Fuel: No. 2-D
10/3/2004	Aircraft	Aircraft Apron Building 850, 10315 Wagner Drive, Niagara Falls	914th Airlift Wing United States Air Force Reserve	Land	0/0	JP-8 Jet Fuel
9/14/2004	Mobile	Interstate 190 SB between Exit 22 and 23, Niagara	(Null)	Water	0/0	Oil, Fuel: No. 2-D
8/6/2004	Mobile	6411 Walmore Road, Niagara Falls	Metzler Stone	Land	0/0	Oil: Diesel
7/23/2004	Mobile	5236 Oakwood Drive, Pendleton	Niagara Mohawk	Water	0/0	Hydraulic Oil
6/23/2004	Mobile	Route 18 Creek Road, Youngstown	(Null)	Land	0/0	Oil, Misc.: Motor
4/13/2004	Mobile	5297 Ridge Road, Lockport	(Null)	Land	0/0	Gasoline: Automotive (Unleaded)
3/16/2004	Mobile	Church Street, Youngstown	USCG - Mso Buffalo	Water	2/0	Oil, Fuel: No. 2-D
3/16/2004	Mobile	Church Street, Youngstown	(Null)	Water	2/0	Oil, Fuel: No. 2-D
1/14/2004	Mobile	1550 Balmer Road, Model City	S & J Transportation	Land	0/0	Arsenic
8/2/2003	Railroad	Niagara Falls Rail Yard, Porter and 29th Street, Niagara Falls	(Null)	Air	0/0	Chlorine
6/3/2003	Mobile	1550 Balmer Road, Model City	CWM Chemical Services	Water	0/0	Other Oil
5/6/2003	Mobile	5816 South Transit Road, Lockport	(Null)	Water	0/0	Gasoline: Automotive (Unleaded)
1/16/2003	Mobile	Miller Road, Royalton	(Null)	(Null)	2/0	(Null)
12/3/2002	Mobile	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	Hydraulic Oil
9/29/2002	Railroad	Plank Road Intersection, Lockport	CSX Transportation	Water	0/0	Coal

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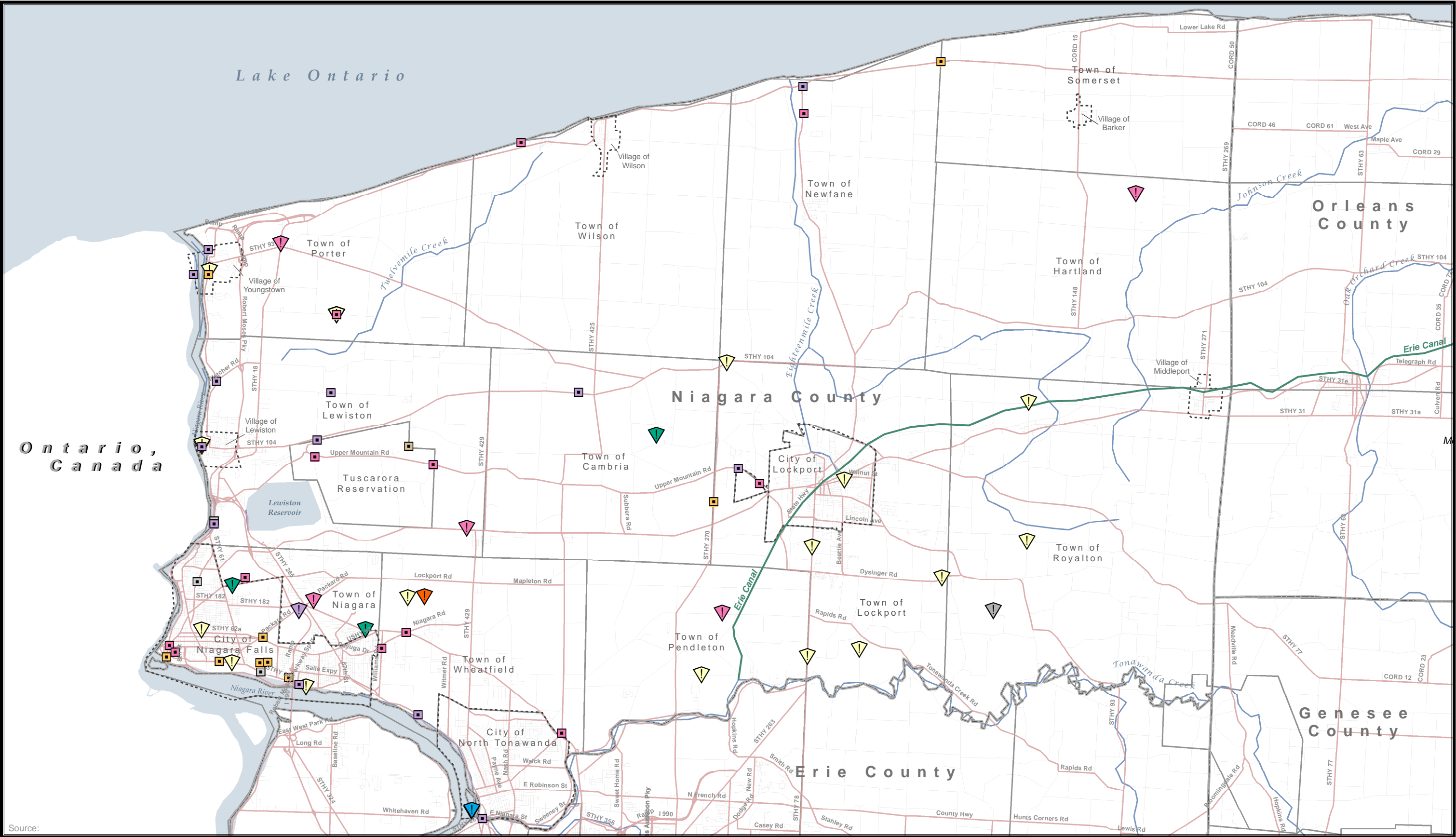
Table 4-17 In-Transit Hazardous Material Incidents, January 2001 to August 2006

Incident Date	Type of Incident	Location	Suspected Responsible Company	Medium Affected	Injuries/Deaths Recorded	Material Name
8/31/2002	Vessel	Placid Harbor Marina on the Niagara River.	(Null)	Water	0/0	Gasoline: Automotive (Unleaded)
6/28/2002	Mobile	United States Customs, Lewiston Bridge, Lewiston	Maerski Sealant	Water	0/0	Oil, Fuel: No. 2-D
4/22/2002	Mobile	Utzig Drive 2405 Franklin Drive, Niagara Falls	USAF-Niagara Falls Air Reserve Station	Water	0/0	Oil, Fuel: No. 2-D
12/17/2001	Mobile	Intersection of Gasport Road and Ernest Road, Royalton	(Null)	Water	0/0	Oil, Fuel: No. 2-D
10/17/2001	Mobile	Intersection Route 31 and West Street, Sanborn	(Null)	Land	2/0	Oil: Diesel
9/15/2001	Mobile	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	PCB Oil
8/21/2001	Mobile	Interstate 190 South Bound Porter/Packard On-Ramp, Niagara Falls	Buffalo Fuel Corp.	Land	0/0	Oil, Misc: Motor
6/8/2001	Mobile	6500 Block of Bear Ridge Road, Pendleton	(Null)	Land	4/0	Gasoline: Automotive (Unleaded)
3/21/2001	Mobile	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	Sodium Hydroxide
Total:					13/1	

Source: National Response Center, <http://www.nrc.uscg.mil/foia.html>, Accessed 8/22/2006.

Severity

In-transit hazardous material incidents can occur in Niagara County at any time. These incidents occur with no warning and last several hours to three days. Recovery from an incident can last one day to one week depending on duration and severity of the hazardous material release. A hazardous material incident is likely to cause death and injuries. Nationwide in 2005, a total of 34 fatalities and 934 injuries were reported for related to in-transit hazardous material incidents. An incident occurring during transportation could affect a wide range of people and property if incident occurs in a heavily populated area. The hazard risk rating for this hazard is high.



Source:

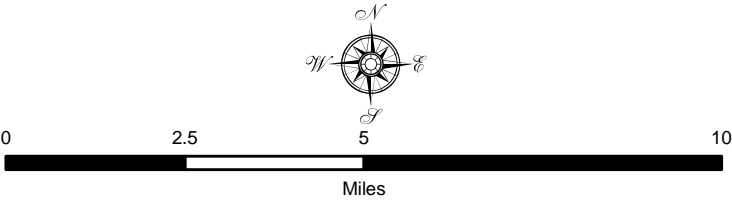
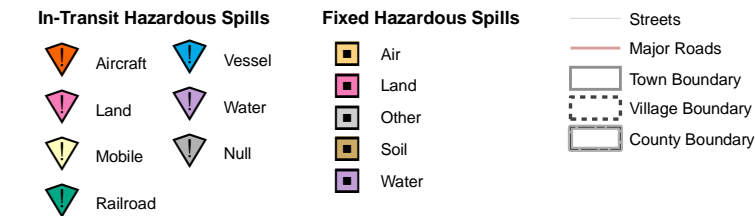


Figure 4-8
In-Transit and Fixed
Hazardous Spill Locations
Niagara County, New York

4. Hazards in Niagara County

Location

Since hazardous materials are being transported along highways, waterways, and airways throughout Niagara County, all of Niagara County is considered to be a potential location for an incident. The most damage to life and property would be caused by an incident that occurs on highways in the city of Niagara Falls, city of Tonawanda or city of Lockport, or along the Niagara River or Lake Ontario. Incidents along the waterways of Niagara County have the potential to affect life and property in neighboring communities downstream of Niagara County.

4.2.2.2 Hazardous Materials- Fixed Site

A hazardous material release can occur during production, storage, transportation, use, or disposal. Hazardous materials - fixed site is the uncontrolled release of material from a stationary facility, which when released can result in death or injury to people and/or damage to property and the environment. For this section, hazardous material hazards that occur during production, storage, or disposal are considered. This hazard includes fuel and gas pipelines. Hazardous materials, such as explosives, flammable and combustible substances, poisons, and radioactive materials, are being produced, stored, and disposed of daily throughout Niagara County. A release of a hazardous material while at a fixed location can cause death, serious injury, and damage to nearby buildings, land, waterways and air.

Probability of Occurrence

In Niagara County over the past five years an average of 11 hazardous material incidents have occurred during transportation each year. Therefore, the probability of an event occurring in Niagara County is inevitable.

Past Occurrences

According to the Hazardous Substances Emergency Events Surveillance Cumulative Report, by the ATSDR, the NYSDOH reported a total of 3,361 hazardous material incidents in New York State from 1998 to 2001. Of the incidents reported, 81% occurred in a fixed facility and 13% caused significant injury or death. Incidents reported in fixed facilities caused 12 deaths during the three year reporting period. The most commonly reported hazardous materials involved were volatile organic compounds, other inorganic substances, acids, and pesticides.

In Niagara County since January 1, 2001, there have been 60 fixed-site hazardous material incidents reported to the National Response Center. Of the incidents there were only three injuries reported.

4. Hazards in Niagara County

Refer to Table 4-18 for detailed information of location and materials released during the incidents reported in Niagara County since January 2001. A map of all hazardous materials incidents is shown in Figure 4-8.

Table 4-18 Fixed-site Hazardous Material Incidents, January 2001 to August 2006

Incident Date	Type Of Incident	Location	Suspected Responsible Company	Medium Affected	Injuries/ Deaths Reported	Material Name
7/7/2006	Storage Tank	Break Wall near Station Niagara, Youngstown	(Null)	Water	0/0	Unknown Material
5/17/2006	Fixed	6686 Walmore Road, Niagara Falls	Am Pac	Land	0/0	Oil, Fuel: No. 2-D
5/10/2006	Fixed	Ground area adjacent to the utility pole, Route 78, Olcott	Algonquin Power	Land	0/0	Unknown Material
4/18/2006	Fixed	3863 Ridge Road, Cambria	(Null)	Water	0/0	Transmission Fluid
11/11/2005	Storage Tank	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	F039 Multisource Leachate
10/27/2005	Fixed	115 South Water Street, Lewiston	(Null)	Water	0/0	Oil: Diesel
10/12/2005	Fixed	970 Lower River Road, Youngstown	(Null)	Water	0/0	Oil, Fuel: No. 2
9/28/2005	Fixed	Chemical Plant 58th Street, Niagara Falls	(Null)	Air	0/0	Unknown Material
6/25/2005	Fixed	5500 Goodyear Drive, Niagara Falls	Goodyear Tire And Rubber Co.	Soil	0/0	Ferric Chloride
5/25/2005	Fixed	Corner of Duggan Road and 3rd Street, Niagara Falls	Niagara Mohawk	Land	0/0	Oil, Misc: Transformer
5/25/2005	Fixed	Corner of Duggan Road and 3rd Street, Niagara Falls	Niagara Mohawk	Land	0/0	Polychlorinated Biphenyls
4/2/2005	Storage Tank	1516 Swann Road, Lewiston	(Null)	Water	0/0	Oil, Fuel: No. 2
3/8/2005	Fixed	5777 Lewiston Road, Lewiston	New York Power Authority	Water	0/0	Compressor Oil
1/2/2005	Fixed	"Village Trailer Park", 41 Willow-bend Avenue, Lockport	(Null)	Land	0/0	Oil, Fuel: No. 2
12/10/2004	Fixed	CSX Rail Yard 29th Street, Niagara Falls	CSX Transportation	Land	0/0	Oil: Diesel
10/27/2004	Fixed	State Route 425 North of US Route 62, Wheatfield	(Null)	Land	0/0	Oil: Diesel

4. Hazards in Niagara County

Table 4-18 Fixed-site Hazardous Material Incidents, January 2001 to August 2006

Incident Date	Type Of Incident	Location	Suspected Responsible Company	Medium Affected	Injuries/ Deaths Reported	Material Name
10/26/2004	Storage Tank	2400 Buffalo Avenue, Niagara Falls	Olin	Water	0/0	Hydrochloric Acid
9/28/2004	Storage Tank	1 Scott Avenue, Youngstown	(Null)	Water	0/0	Unknown Material
9/9/2004	Storage Tank	3055 Maple Avenue, Wilson	(Null)	Land	0/0	Home Heating Oil
8/24/2004	Storage Tank	2400 Buffalo Avenue, Niagara Falls	Olin Corporation	Air	0/0	Chlorine
8/22/2004	Fixed	2400 Buffalo Avenue, Niagara Falls	Olin Corp	Water	0/0	Other Oil
7/19/2004	Fixed	4834 Indian Hill Road, Lewiston	Smokin' Joes Gas Station	Water	0/0	Gasoline: Automotive (Unleaded)
7/13/2004	Fixed	Williams Road, Niagara Falls	Noco Gas Station	Land	0/0	Gasoline: Automotive (Unleaded)
5/25/2004	Storage Tank	4700 Buffalo Avenue, Niagara Falls	Occidental Chemical	Land	0/0	Non-Oily Sludge
4/29/2004	Storage Tank	1550 Balmer Road, Model City	CWM Chemical Services	Soil	0/0	Multisource Leachate
12/7/2003	Fixed	Buffalo Avenue and 26th Street, Niagara Falls	EI Dupont	Air	0/0	Chlorine
10/30/2003	Fixed	Buffalo Avenue, Niagara Falls	Olin	Water	0/0	Oil, Misc: Lubricating
10/27/2003	Fixed	7725 Lake Road	AES Somerset	Air	0/0	Ammonia, Anhydrous
9/24/2003	Fixed	Buffalo Avenue And 26th Street, Niagara Falls	EI Dupont	Air	0/0	Chlorine
9/15/2003	Fixed	5777 Lewiston Road, Lewiston	NY Power Authority	Water	0/0	Gear Oil
9/11/2003	Fixed	Niagara River, 5777 Lewiston Road, Lewiston	(Null)	Water	0/0	Hydraulic Oil
9/8/2003	Storage Tank	135 Elliott Street, Youngstown	(Null)	Air	0/0	Ammonia, Anhydrous
5/15/2003	Fixed	Robert Moses Niagara Power Plant, Lewiston	NY Power Authority	Water	0/0	Turban Lubricating Oil
3/14/2003	Pipeline	4700 Buffalo Avenue, Niagara Falls	Occidental Permian Chemical	Land	0/0	Sodium Hydroxide
3/6/2003	Storage Tank	Robert Moses Unit 75777 Lewiston Road, Lewiston	New York Power Authority	Other	0/0	Oil, Misc: Lubricating
2/10/2003	Pipeline	5186 Lockport Junction Road., Lockport	Tennessee Gas Pipeline	Air	0/0	Natural Gas

4. Hazards in Niagara County

Table 4-18 Fixed-site Hazardous Material Incidents, January 2001 to August 2006

Incident Date	Type Of Incident	Location	Suspected Responsible Company	Medium Affected	Injuries/ Deaths Reported	Material Name
9/10/2002	Fixed	2400 Buffalo Avenue, Niagara Falls	Olin Corp	Air	0/0	Chlorine
8/31/2002	Fixed	2400 Buffalo Avenue, Niagara Falls	Olin	Water	0/0	Brine Solution
8/28/2002	Fixed	3125 Highland Avenue, Niagara Falls	Tulip Corp	Other	0/0	Mercury
8/14/2002	Fixed	4700 Buffalo Avenue, Niagara Falls	Occidental Chemical Comp	Air	0/0	Chlorine
8/12/2002	Fixed	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	Contaminated Ground Water
6/19/2002	Fixed	5707 Upper Mountain Road, Lockport	Delphi Harrison Thermal	Land	0/0	Sulfuric Acid
6/14/2002	Storage Tank	Niagara River, Niagara Wheatfield, 2080 River Road., Niagara Falls	(Null)	Water	0/0	Unknown Material
6/3/2002	Fixed	Upper Mountain Road and Military Road, Lewiston	(Null)	Land	0/0	Unknown Oil
4/24/2002	Fixed	2400 Buffalo Avenue, Niagara Falls	Olin Corp	Air	0/0	Refrigerant Gases (Freon 114)
3/19/2002	Fixed	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	Leachate
12/4/2001	Fixed	47 Street and Royal Avenue, Niagara Falls	Stratcor	Air	0/0	Titanium Tetrachloride
11/19/2001	Fixed	Buffalo Avenue and 26th Street, Niagara Falls	DuPont	Water	0/0	Tetrahydrofuran
11/13/2001	Storage Tank	6600 Walmore Road, Niagara	Saint-Gobain Abrasives Co.	Land	0/0	Phenolic Resin
10/25/2001	Storage Tank	Tuscarora Indian Reservation, Lewiston	(Null)	Land	1/0	Sodium Hydroxide
10/15/2001	Storage Tank	Blacknose Spring Road, Lewiston	(Null)	Soil		Waste Oil
10/13/2001	Storage Tank	Route 18th and 78/ under the Bridge in the Water, Olcott	Hedley Boat Co	Water	0/0	Unknown Oil
8/10/2001	Fixed	4 Sweeney Street, North Tonawanda	Snyder Industries	Water	0/0	Unknown Material
8/9/2001	Storage Tank	1550 Balmer Road, Model City	CWM Chemical Services	Other	0/0	Aqueous Leachate
8/8/2001	Storage Tank	4700 Buffalo Avenue, Niagara Falls	Occidental Chemical Co.	Other	0/0	Sodium Hydroxide
4/18/2001	Fixed	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	Aqueous Leachate

4. Hazards in Niagara County

Table 4-18 Fixed-site Hazardous Material Incidents, January 2001 to August 2006

Incident Date	Type Of Incident	Location	Suspected Responsible Company	Medium Affected	Injuries/ Deaths Reported	Material Name
2/7/2001	Fixed	5500 Goodyear Drive, Niagara Falls	Good Year Tire	Air	0/0	Ortho-Toluidine
2/1/2001	Storage Tank	1550 Balmer Road, Model City	CWM Chemical Services	Land	0/0	Leachate
1/19/2001	Fixed	200 Upper Mountain Road, Lockport	Delphi Harrison Thermal System	Water	2/0	Petroleum Based Oil
1/11/2001	Fixed	15 Buffalo Avenue and 26th Street, Niagara Falls	EI Dupont	Air	0/0	Chlorine
Total:					3/0	

Source: National Response Center, <http://www.nrc.uscg.mil/foia.html>, accessed 8/22/2006.

Severity

Hazardous material incidents can occur in Niagara County at any time. These incidents occur with no warning and last anywhere from several hours to three days. Recovery from an incident can last several days to two weeks depending on duration and severity of the hazardous material release. Although a serious hazardous material incident resulting in mass injury or death has not occurred within Niagara County, there is the potential an incident is likely to cause death and injuries. An incident occurring during production would affect the life of the people working within the plant or storage area and the area in the immediate vicinity of the incident.

Location

The location of fixed hazardous material incidents are confined to areas that manufactures, stores or disposes of hazardous materials. A list of the areas within the County could result in a fixed hazardous material incident is provided in the County's critical infrastructure database (see Figure 5-1).

4.2.2.3 Terrorism

Terrorism is the intentional use or threat of serious violence in order to injure/kill a mass amount of people and/or destroy property. Terrorism could include bombing of critical infrastructure or a public location, use of a biological, chemical, or radiological weapon, hijacking, assassinations, kidnappings, or cyber-attacks. The purpose of terrorism is to create fear among the public, to try to convince citizens that their government is powerless to prevent terrorism, and to get immediate publicity for their causes. There are two types of terrorism: domestic terrorism involves groups or individuals whose terrorist activities are directed at elements of our government or population without foreign direction. International

4. Hazards in Niagara County

terrorism involves groups or individuals whose terrorist activities are foreign-based and/or directed by countries or groups outside the United States.

Probability of Occurrence

Terrorist attacks can occur at any time and any location. Terrorist attacks occurring in the United States averaged 10 to 25 attacks annually, of which are mostly acts of domestic terrorism. Since 1986 there have only been 11 acts of international terrorism recorded in the United States. Terrorist alerts are continually issued from the United States government for possible attacks within the United States. The majority of the terror alerts issued from 2002 to 2003 were for the entire United States, without distinction of specific location; therefore, all areas of the United States were on alert for a possible terrorist attack (see Table 4-19). Historically, there have not been any terrorist attacks in Niagara County, however, there is a possibility of an attack occurring at the many high-risk targets located within the County.

Table 4-19 Terror Alerts Issued for the United States, 2002 to 2003

Date Issued	Issuing Department	Location of Alert	Description
May 18, 2003	United States Department of State	United States	Threat of terrorist attacks on “soft targets” within the United States are likely.
March 30, 2003	United States Department of State	Worldwide	Continued threat of terrorist actions against United States citizens and interests overseas.
March 19, 2003	United States Department of State	Worldwide	Warning that some terrorist attacks against American targets worldwide will increase dramatically.
March 6, 2003	United States Federal Bureau of Investigation	United States	Warning that as a result of a senior Al-Qaeda leader, planned terrorist attacks within the United States may be implemented sooner.
February 13, 2003	United States Central Intelligence Agency	United States and its Allies	As a result of the impending war in Iraq, it is believed that an attack on the United States and its allies could occur within days.
February 7, 2003	United States Department of Justice and Homeland Security	United States	Terror threat level has been raised to High Risk
January 17, 2003	United States Department of State	Worldwide	Hamas threatened terrorist attacks against the United States and allied targets “everywhere”, in the event of conflict in Iraq.
January 16, 2003	United States Federal Bureau of Investigation	United States	Warning that terrorists will use shoulder-fired, heat-seeking missiles to shoot down civilian aircraft.

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Table 4-19 Terror Alerts Issued for the United States, 2002 to 2003

Date Issued	Issuing Department	Location of Alert	Description
January 11, 2003	United States Federal Bureau of Investigation	United States	Warned local police about ricin, which was at the center of an alleged terrorist plot uncovered in Great Britain.
October 24, 2002	United States Federal Bureau of Investigation	United States	Warning state and local law enforcement of the threat of terrorists targeting the United States passenger trains.
October 11, 2002	United States Department of State	Worldwide	Continued threat of terrorist actions against United States citizens and interests overseas.
September 10, 2002	United States Department of Justice	United States	Terror threat level has been raised to High Risk, due to a specific and credible terrorist threat.
September 9, 2002	United States Federal Bureau of Investigation	United States	Warning to local police, electrical companies and transportation agencies of terrorist attacks to coincide with the anniversary of the 9/11 attacks.
July 1, 2002	United States Department of State	Worldwide	Continued threat of terrorist actions against United States citizens and interests overseas.
June 30, 2002	United States Federal Bureau of Investigation	United States	Alert to state and local law enforcement warning of the possibility of a terrorist attack within the United States around 4 th of July holiday.
June 21, 2002	United States Federal Bureau of Investigation	United States	Alerting state and local law enforcement about the possibility of the use of fuel tankers in attacks against Jewish neighborhoods and synagogues.
June 11, 2002	United States Immigration and Naturalization Service	United States	Directs United States airports, borders and ports to do a complete search of Yemeni traveler.
June 9, 2002	United States Coast Guard	United States	Warning of possible terrorist attacks against the nation's shores and waterways.
June 8, 2002	United States Federal Bureau of Investigation	United States	Warning of possible terrorist attacks against subway systems in the United States, using nerve gas.
June 8, 2002	United States Federal Bureau of Investigation	United States	Warning of the possible use of kayaks to bomb ships or waterfront facilities
May 24, 2002	United States Department of Transportation	United States	Warning of terrorist attacks on rail and transit
May 21, 2002	New York City Police Department	New York City	Warning of the possible attack on major New York City Landmarks
May 20, 2002	United States Federal Bureau of Investigation	United States	Warning of suicide/homicide bombers in the United States.
May 19, 2002	United States Federal Bureau of Investigation	United States	Warning of potential apartment building bombings.

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Table 4-19 Terror Alerts Issued for the United States, 2002 to 2003

Date Issued	Issuing Department	Location of Alert	Description
April 19, 2002	United States Department of Justice	Northeastern United States	Concerns about potential attacks on United States financial institutions in the northeastern United States.
March 17, 2002	United States Department of State	Worldwide	Continued threat of terrorist actions against United States citizens and interests overseas.
February 11, 2002	United States Federal Bureau of Investigation	United States and Yemen	Alert of possible imminent attacks in the United States and her interests in Yemen.
January 2, 2002	United States Federal Emergency Management Agency	United States	Terror threat level has been raised to High Risk.

Source: Emergency Response and Research Institute, : Summary of ERRI Terrorist Advisories."

Past Occurrences

According to the Federal Bureau of Investigation, the United States has experienced 482 terrorist incidents or planned attacks from 1980 to 2001. Of these attacks, 67% were bombings and 6.8% were arsons (see Table 4-20). During the period from 2000 to 2001, 24 terrorist attacks or planned attacks occurred in the United States. Of these attacks only two occurred within New York State, the September 11, 2001 (9/11) aircraft attacks and the Anthrax mailings, which occurred in the months following the 9/11 attacks. Although Niagara County has never experienced an act of terrorism, the September 11, 2001 attacks at the World Trade Center and the Pentagon, resulted in the Presidential Disaster Declaration for the entire state of New York, including Niagara County (see Table 4-21).

Table 4-20 Domestic and International Terrorism Incidents recorded by the United States Department of Justice, Federal Bureau of Investigation, 1980 through 2001

Event	Number of Events
Bombing	324
Arson	33
Kidnapping	2
Assassinations	21
Shootings	19
Sabotage/Malicious Destruction	19
Robberies	15
Hostile Takeovers	10
Assaults	6
Weapons of Mass Destruction	6
Hijackings/Aircraft Attacks	3
Rocket attacks	2

4. Hazards in Niagara County

Table 4-20 Domestic and International Terrorism Incidents recorded by the United States Department of Justice, Federal Bureau of Investigation, 1980 through 2001

Event	Number of Events
Other	22
Total Incident or Planned Acts	482

Source: U.S. Department of Justice, Federal Bureau of Investigation. "Terrorism 2000/2001."

Table 4-21 Presidential Major Disaster Declarations for Terrorist Attacks

Type of Event	Date	Declaration Number	Cost of Losses (approx.)
Terrorist Attack	September 2001	1391-DR	54.4 billion (physical assets and clean-up costs)

Source: FEMA Web site (http://www.fema.gov/news/disasters_state.fema?id=36), Looney, Robert. 2002 "Economic Costs to the United States Stemming from the 9/11 Attacks". *Strategic Insights*, Vol. 1, Issue 6.

Of the 25 terrorist incidents which occurred in the United States from 2000 to 2001, 23 were acts of domestic terrorism (see Table 4-22). These known domestic terrorist acts did not cause any deaths or injuries; however, they did cause over \$12 million in property damage. In comparison, the international terrorist events of that same time period caused almost 3,000 deaths and an unknown amount of injuries and caused over \$54 million in property damage and cleanup. In the past 20 years there have been 11 international terrorist attacks in the United States, of which all but one act resulted in death or injury (see Table 4-23). International terrorism intent is to cause mass casualties/injuries and property damage. Although these acts do not occur as frequently as domestic terrorism acts, they are more likely to cause death and injury and result in significant property damage compared to domestic acts of terrorism.

Table 4-22 Terrorist Incidents Occurring in the United States, Recorded by the United States Department of Justice, Federal Bureau of Investigation, 2000 to 2001

Date	Location	Carried Out/Threat	Domestic/International	Fatalities	Injuries	Damage (\$)	Description
January 3, 2000	Petaluma, CA	Carried Out	Domestic	0	0	150,000	Incendiary Attack
January 15, 2000	Petaluma, CA	Carried Out	Domestic	0	0	20,000	Incendiary Attack
January 22, 2000	Bloomington, IN	Carried Out	Domestic	0	0	200,000	Destruction by Arson
March 9, 2000	Houston, TX	Threat	Domestic	0	0	0	Planned Bombing of the Federal Building in Houston, TX.
May 7, 2000	Olympia, WA	Carried Out	Domestic	0	0	150,000	Destruction by Arson
July 2, 2000	North Vernon, IN	Carried Out	Domestic	0	0	100,000	Destruction by Arson
July 20, 2000	Rhineland, WI	Carried Out	Domestic	0	0	1,000,000	Vandalism and Destruction of Property

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Table 4-22 Terrorist Incidents Occurring in the United States, Recorded by the United States Department of Justice, Federal Bureau of Investigation, 2000 to 2001

Date	Location	Carried Out/Threat	Domestic/International	Fatalities	Injuries	Damage (\$)	Description
December 2000	Phoenix, AZ	Carried Out	Domestic	0	0	5,000,000	Multiple Arsons
December 2000	Suffolk County, NY	Carried Out	Domestic	0	0	Not Reported	Multiple Arsons
January 2, 2001	Glendale, OR	Carried Out	Domestic	0	0	400,000	Arson
February 20, 2001	Visalia, CA	Carried Out	Domestic	0	0	200,000	Arson
March 9, 2001	Culpepper, VA	Carried Out	Domestic	0	0	0	Tree Spiking
March 29, 2001	Los Angeles, CA	Threat	Domestic	0	0	0	Planned Bombing of Chevron Oil Refinery
March 30, 2001	Eugene, OR	Carried Out	Domestic	0	0	1,000,000	Arson
April 15, 2001	Portland, OR	Carried Out	Domestic	0	0	Not Reported	Arson
May 17, 2001	Harrisburg, PA Morgantown, WV	Carried Out	Domestic	0	0	Not Reported	Bank Robberies
May 21, 2001	Seattle, WA	Carried Out	Domestic	0	0	3,000,000	Arson
May 21, 2001	Clatskanie, OR	Carried Out	Domestic	0	0	800,000	Arson
July 24, 2001	Stateline, NV	Carried Out	Domestic	0	0	2,000	Destruction of Property
September 11, 2001	New York, NY Arlington, VA Stony Creek, PA	Carried Out	International	Not Reported	2,783	54,400,000,000 (physical and clean-up costs)	Aircraft Attack
September to November 2001	New York, NY Washington D.C., Lantana, FL	Carried Out	Unknown	5	18	Not Reported	Anthrax Mailings
October 14, 2001	Lintchfield, CA	Carried Out	Domestic	0	0	75,000 to 85,000	Arson
November 12, 2001	San Diego, CA	Carried Out	Domestic	0	0	500,000	Burglary and Vandalism
December 11, 2001	Los Angeles, CA	Threat	Domestic	0	0	0	Planned Bombing of the King Fahd Mosque in Culver City, CA.
December 23, 2001	Boston, MA	Threat	International	2	0	0	Planned bombing using shoe bomb of aircraft mid-flight.

Source: U.S. Department of Justice, Federal Bureau of Investigation. "Terrorism 2000/2001", Looney, Robert. 2002 "Economic Costs to the United States Stemming from the 9/11 Attacks". *Strategic Insights*, Vol. 1, Issue 6.

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Table 4-23 International Terrorism Events Occurring in the United States, 1986-2006

Date	Location	Target	Attack Type	Responsible Organization	Fatalities	Injuries	Description
July 4, 2002	Los Angeles International Airport	Airport	Shooting	Unknown	2	4	Gunman open fired at Israel's Al Airlines, security guard returned fire, killing gunman.
December 23, 2001	Flight 63 Paris France to Miami, Florida	Aircraft	Hijacking	Al-Qa'ida	0	2	Man attempted to ignite an improvised explosive device in his shoe. Flight attendants and passengers overpowered man, and flight was diverted to Logan International Airport where it landed safely.
September to November, 2001	New York, NY Washington D.C., Lantana, FL	Civilian	Biological	Unknown	5	18	An unknown person/group sent Anthrax through the mail over the course of several months.
September 11, 2001	New York, NY Washington, DC Stony Creek, PA	Building	Hijacking/Suicide Bomb	Al-Qa'ida	2783	Not Reported	Terrorist hijacked four passenger planes and deliberately crashed them into the World Trade Centers, Pentagon, and a field in Pennsylvania.
August 11, 1999	Los Angeles, CA	Civilian	Shooting	Unknown	1	5	Gunman open fired at a Jewish Daycare center injuring children, and later shot and killed a postal worker.
July 3, 1999	Chicago, IL	Civilian	Shooting	Unknown	1	6	Minorities targeted in three separate shooting around Chicago.
June 18, 1999	Sacramento, CA	Place of Worship	Arson	Unknown	0	0	Arsonist attacked three synagogues.
June 27, 1998	Texas, US	Civilian	Other	Unknown	1	0	An African American was beaten and killed by three men associated with the KKK.
February 23, 1997	New York City, NY	Civilian	Shooting	Unknown	1	Not Reported	A Palestinian gunman open fired at an observation deck at the Empire State Building, killing a Danish man and injuring several people from the U.S., Argentina, Switzerland and France before committing suicide.
January 2, 1997	Washington DC, New York City, NY London, UK Riyadh, Saudi Arabia	Office	Letter bomb	Unknown	0	2	A series of letter bombs sent to Al-Hayat newspaper bureaus around the world. Bombs were defused, except the one in London which injured 2 people.
February 26, 1993	New York, NY	Building	Car Bomb	Jihad Group	6	1,000	Car bomb exploded in an underground garage below the World Trade Center.
Total:					2,800	1,037	

Source: The Institute for Counter-Terrorism "International Terrorism/ Terror Attack Database"
http://www.ict.org.il/inter_ter/intnl_attacksearch_frame.htm

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Severity

Terrorist attacks will occur without warning and recovery from the attacks may take several weeks to several months. Terrorist attacks that cause mass fatalities and injuries do not occur frequently in the United States; however, attacks causing significant property damage do occur several times a year. In the United States from 2000 to 2001, excluding the terrorist attacks of September 11, 2001, terrorism caused over \$12 million in property damages. Alone the 9/11 attacks cost over \$54 billion in property damage and clean up, this is not including other economic impacts of the attacks. Niagara County is at a high risk for terrorism due to the international boarder crossing with Canada, Niagara Falls power facilities, and the numerous chemical manufacturing industries located within the County. Any terrorist attack within Niagara County could cause mass injuries and death and the loss of significant amounts of property.

Location

Terrorism could potentially occur anywhere within Niagara County, therefore, there are no geographic boundaries associated with this hazard. Although there are no geographic boundaries for this hazard, some high-risk targets include military and civilian government facilities, international airports, large cities, and high-profile landmarks. Such targets within Niagara County include the international boarder crossings with Canada, Niagara Falls, Niagara Falls International Airport, and the Niagara Falls Air Reserve Station. In addition to these targets, terrorists might also target large public gatherings, water and food supplies, utilities, and corporate centers and are capable of sending explosives or chemical and biological agents through the mail.

4.2.2.4 Power Failure

Power failure is defined as a loss of electricity as a result of a system failure or as an effect of natural or man-made hazard.

Probability of Occurrence

Power failure is considered to be a result of a natural or man-made hazard. The probability of an occurrence would depend upon the corresponding hazard's probability of an occurrence. High wind storms, ice storms, and excessive demand on the power grid are events that in the past have contributed to power failures. The natural hazards that may cause a power outage are likely to occur at least once a year; therefore, probability of a power outage due to natural causes is high.

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Past Occurrences

Data of historical local power failure events is not readily available. In Niagara County, high wind and ice storms are major contributors to the loss of electricity by downed power lines associated with storms. These outages tend to be localized and power is usually restored within several hours to a day. In the past 5 years there have been two instances that resulted in a large scale loss of electricity in Niagara County (see Table 4-24). The most recent incident was the blackout of August 14, 2003, which resulted in a Presidential Emergency Declaration and affected over 50 million people throughout the northeastern United States (see Table 4-25). The second major incident which affected counties throughout Western New York occurred in January 2002 when an ice storm coupled with high winds left hundreds of thousands of people without electricity for up to 72 hours. Table 4-24 gives detailed information for major historical power outages that have occurred in New York State.

Table 4-24 Major Historical Outages in New York State

Date	Area's Effected	Number of People Affected	Duration of Power Outage	Description
November 9, 1965	All of New York, Connecticut, Massachusetts, Rhode Island, northern, Pennsylvania and north-eastern New Jersey, and areas of Ontario, Canada.	30 million	13 hours	Cascading outage, originating in Toronto, Canada
July 13, 1977	New York City	9 million	up to 26 hours	Lightening strike at a tower line in Westchester County, New York, triggering the separation and total collapse of the system.
August 14, 2003	Ohio, Michigan, Pennsylvania, New York, Vermont, Massachusetts, Connecticut, and New Jersey and Ontario, Canada.	50 million	2 days	Cascading outage, originating in Ohio.

Source: "Final Report on the August 14, 2003, Blackout in the United States and Canada: Causes and Recommendations," United States-Canada Power System Outage Task Force, April 5, 2004.

Table 4-25 Presidential Emergency Declarations for Power Outages

Type of Event	Date	Declaration Number	Cost of Losses (approx.)
Power Outage	August 2003	3186-EM	\$5 million (not including economic losses)

Source: FEMA website (http://www.fema.gov/news/disasters_state.fema?id=36).

Severity

The onset of this hazard can occur with little or no warning. The duration is usually several hours to three days and the recovery time generally lasts less than one day. It is possible that serious

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injury or death will occur; however, it is unlikely they will occur in large numbers. In most instances there has been little or no damage, structure or otherwise, to private property or public facilities. The power outage of 1965 resulted in the formation of the North American Electric Reliability Council in 1968. The existence of NYSEG's redundant grid network also helps to minimize the duration and the recovery time of this hazard. The Hazard Risk rating for this hazard is moderate.

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for an occurrence.

4.2.2.5 Dam Failure

A dam failure occurs when structural deterioration, either gradual or sudden, results in the facility's inability to control impounded water as designed, resulting in danger to people and/or property in the potential inundation area.

Probability of Occurrence

There are seven dams located within Niagara County: the Middleport Reservoir Dam, Burt Dam, Gill Creek Dam, Newfane Dam, Niagara County Federation of Conservation Clubs Dam, Robert-Moses – Niagara Power Dam, and the Lewiston Reservoir Dike. It is not possible to predict the probability of an occurrence of dam failure at any one of these dams; although, at the time that this plan was written, no information could be located indicating that a failure at any of these dams is likely or imminent. Additional information for each dam is presented below:

Middleport Reservoir Dam.

State ID No.: 022-0900

Location: Village of Middleport

River or Waterbody: Middleport Creek

Owner: Village of Middleport

Year Completed: 1931

Dam Length: 300 feet

Dam Height: 21 feet

Maximum Discharge: 1,680 gallons

Maximum Storage: 70 gallons

Burt Dam.

State ID No.: 015-0272

Location: Town of Newfane

River or Waterbody: Eighteen Mile Creek

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Owner: Burt Dam Power Company
Year Completed: 1924
Dam Length: 328 feet
Dam Height: 49 feet
Maximum Discharge: 6,000 gallons
Maximum Storage: 2,288 gallons

Gill Creek Dam.

State ID No.: 005-4429
Location: Town of Niagara
River or Waterbody: Gill Creek
Owner: Niagara County Department of Public Works
Year Completed: 1927
Dam Length: 180 feet
Dam Height: 12 feet
Maximum Discharge: 0 gallons
Maximum Storage: 143 gallons

Newfane Dam.

State ID No.: 015-0270
Location: Town of Newfane
River or Waterbody: Eighteen Mile Creek
Owner: Frederick K. Wing
Year Completed: 1912
Dam Length: 270 feet
Dam Height: 14 feet
Maximum Discharge: 1,400 gallons
Maximum Storage: 25 gallons

Niagara County Federation of Conservation Clubs Dam.

State ID No.: 016-0222
Location: Town of Royalton
River or Waterbody: Eighteen Mile Creek
Owner: Niagara County Federation of Conservation Clubs
Year Completed: Unknown
Dam Length: 300 feet
Dam Height: 10 feet
Maximum Discharge: 0 gallons
Maximum Storage: 15 gallons

Robert Moses – Niagara Power Dam.

National Inventory of Dams ID No.: NY83007
Location: Town of Lewiston
River or Waterbody: Niagara River
Owner: New York Power Authority
Year Completed: 1963

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Dam Length: 1,100 feet
 Dam Height: 97 feet
 Maximum Discharge: Unknown
 Maximum Storage: Unknown

Lewiston Reservoir Dike.

National Inventory of Dams ID No.: NY83051
 Location: Town of Lewiston
 River or Waterbody: Niagara River
 Owner: New York Power Authority
 Year Completed: 1963
 Dam Length: 34,320 feet
 Dam Height: 55 feet
 Maximum Discharge: 29,230 gallons
 Maximum Storage: Unknown

Past Occurrences

During the late 19th century, the failure of small industrial and mill dams was a routine occurrence within Niagara County, happening frequently at facilities located on Eighteen Mile Creek. These dam failures did not usually impact anyone but the dam owners and these dams are no longer in existence. There have been no recorded major failures of any of the dams listed above. Mismanagement of the ice boom, related to the operation of the Robert Moses – Niagara Power Dam, was investigated as a potential cause of major flooding which impacted Cayuga Island, Wheatfield and Grand Island occurring in January of 1985. However the results of the investigation by the USACE indicated that the flooding was the result of natural causes and not any operations related to the dam.

Severity

The potential severity of a dam failure in Niagara County depends upon which dam experiences the failure. The worst possible scenario for each dam within the County has been analyzed by the National Inventory of Dams and the results of that analysis are shown in Table 4-26:

Table 4-26 Niagara County Dams Hazards

Dam	Hazard Level	Description of Hazard Level
Burt Dam	High Hazard	The loss of at least one human life is probable. Economic loss, environmental damage and interruption of critical services may result.
Lewiston Reservoir Dike	High Hazard	
Robert Moses – Niagara Power Dam	High Hazard	
Newfane Dam	Significant Hazard	No loss of human life is expected although economic loss, environmental damage and interruption of critical services will result.
Niagara County Federation of Conservation Clubs Dam	Significant Hazard	

Table 4-26 Niagara County Dams Hazards

Dam	Hazard Level	Description of Hazard Level
Middleport Reservoir Dam	Low Hazard	No loss of human life is expected and economic loss, environmental damage and interruption of critical services are likely to be generally limited to the owner of the dam.
Gill Creek Dam	Low Hazard	

The Burt Dam, Lewiston Reservoir Dike, and the Robert Moses – Niagara Power Dam are accurately described by the National Inventory of Dams as being a high hazard in the event of a dam failure. The size of the dams combined with the potential to impact large populations makes the failure of any one of these a major threat. If the Robert Moses – Niagara Power Dam or the Lewiston Reservoir Dike were to fail the impact of the resulting floods would likely be felt by the residents and business owners within the town of Niagara, city of Niagara Falls, the Tuscarora Nation and the town of Lewiston, totaling approximately 82,000 people. The failure of either of these two dams could also impact the availability of electricity to homes and businesses throughout the region. The failure of the Burt Dam is also a high hazard since it would cause major flooding in the town of Newfane, impacting approximately 9,700 people. The Newfane Dam would not have as great an impact on the town of Newfane since it is smaller and its maximum capacity for discharge is much less; therefore, it is a significant hazard having the potential to cause economic loss, environmental damage and interruption of critical services but not loss of human life. Similarly the Niagara County Federation of Conservation Clubs Dam is a significant hazard. The Gill Creek Dam is a low hazard due to its small storage capacity. The Middleport Reservoir Dam is considered to be a low hazard according to the National Inventory of Dams; however, it does have the potential to cause significant flooding within the village of Middleport and is therefore considered to be a significant hazard for the purposes of this Plan.

Location

Each of the seven major dams within the County along with the jurisdictions they will likely impact through flooding in the event of a dam failure and the critical infrastructure located within those jurisdictions is discussed further in Section 5.1.2.15.

4.2.2.6 Air Contamination (Intentional or Accidental)

Air contamination results when gases or particles containing hazardous substances are released to the air. Air contamination can be caused by contaminants that exist as a gas and mix with the air or that are attached to or make up particles suspended in the air.

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There are many sources of air pollution, both intentional and accidental, including emissions from smokestacks and landfills, explosions and fires, automobile exhaust, factory equipment leaks, and commercial products, such as paints or household cleaners. Liquid hazardous substances can cause air pollution when they are exposed to air and evaporate. Contaminants in surface soil can contribute to air pollution if the soil becomes airborne in the wind. Air pollution can injure or kill animals and humans when they inhale contaminated air or when contaminants are absorbed from the lungs into other parts of the body. Certain air contaminants can injure or kill animals and humans when the contaminant comes into contact the skin.

Probability of Occurrence

From 2001 to 2005 there was an average of three incidents of accidental air contamination in Niagara County, with a high of seven incidents occurring in 2003. Therefore, it is highly likely that an incident of accidental air contamination will occur during within the County multiple times each year. It is impossible to know with any certainty what the probability of an intentional incident of air contamination is; however, there are many chemical manufacturing, storage, and transportation facilities throughout the County, identified in Section 5.1, which are vulnerable targets for anyone intent on causing an incidence of air contamination. Therefore, the occurrence of an incident of intentional air contamination within the County is a potential threat.

Chemicals are the most likely source of air contamination. An accident at an industrial facility or a train wreck might release large amounts of a hazardous chemical into the air. A terrorist attack could involve the deliberate release of a toxic chemical or gas. In a bioterrorism attack, bacteria or viruses causing diseases such as anthrax, pneumonic plague, smallpox, or tularemia could be released in an aerosol form. Anyone who inhaled the substance could be affected. While air itself does not become radioactive, release of radiation into the environment can create radioactive dust and dirt (fallout) that can made the air unsafe. A “dirty bomb” could work in this manner, causing a relatively minor explosion, but doing its real damage by releasing radioactive materials into the environment.

Past Occurrences

In Niagara County, since January of 2001, 15 hazardous material release incidents occurred resulting in air contamination. Of these incidents of air contamination in Niagara County 73% occurred in the city of Niagara Falls. The remaining 27% of incidents occurred

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either in the city of Lockport, the village of Youngstown or the town of Somerset. Eighty-seven percent of these incidents occurred at industrial facilities within the County and the remaining 23% of incidents occurred at transportation facilities including the Tennessee Gas Pipeline and the rail yard located in Niagara Falls. No records are available indicating the cost of the damage from these incidents, but it should be expected that costs would be on the scale of those reported nationally. Note that no injuries or deaths were reported as a result of any incident of air contamination in Niagara County since 2001. Refer to Table 4-27 below for a detailed list of the incident locations and materials released.

Table 4-27 Hazardous Material Releases Incidents Resulting in Air Contamination, 2001 to Present

Incident Date	Type of Incident	Location	Suspected Responsible Company	Material Name
1/11/2001	Fixed	15 Buffalo Avenue and 26 th Street, Niagara Falls	EI DuPont	Chlorine
2/7/2001	Fixed	5500 Goodyear Drive, Niagara Falls	Good Year Tire	Ortho-Toluidine
12/4/2001	Fixed	47 Street and Royal Avenue, Niagara Falls	STRATCOR	Titanium Tetra-chloride
4/24/2002	Fixed	2400 Buffalo Avenue, Niagara Falls	Olin Corp	Refrigerant Gases (Freon 114)
8/14/2002	Fixed	4700 Buffalo Avenue, Niagara Falls	Occidental Chemical Company	Chlorine
2/10/2003	Pipeline	5186 Lockport Junction Road, Lockport	Tennessee Gas Pipeline	Natural Gas
9/10/2002	Fixed	2400 Buffalo Avenue, Niagara Falls	Olin Corp	Chlorine
9/8/2003	Storage Tank	135 Elliott Street, Youngstown	(null)	Ammonia, Anhydrous
10/27/2003	Fixed	7725 Lake Road	AES Somerset	Ammonia, Anhydrous
9/24/2003	Fixed	Buffalo Avenue, and 26 th Street, Niagara Falls	EI DuPont	Chlorine
12/7/2003	Fixed	Buffalo Avenue and 26 th Street, Niagara Falls	EI DuPont	Chlorine
8/24/2004	Storage Tank	2400 Buffalo Avenue, Niagara Falls	Olin Corporation	Chlorine
9/28/2005	Fixed	Chemical Plant 58 th Street, Niagara Falls	(null)	Unknown Material

Table 4-27 Hazardous Material Releases Incidents Resulting in Air Contamination, 2001 to Present

Incident Date	Type of Incident	Location	Suspected Responsible Company	Material Name
8/2/2003	Railroad	Niagara Falls Rail Yard Porter and 29 th Street, Niagara Falls	(null)	Chlorine

Severity

Incidents of air contamination can occur in Niagara County at any time. These incidents occur with no warning and last several hours to three days. Recovery from an incident can last one day to one week depending on duration and severity of the contaminant release. The air could become contaminated without anyone knowing it until people or animals start to develop symptoms. Past experience in Niagara County shows that incidents of air contamination could, but are not likely to, cause death and injuries. An incident occurring during transportation could affect a wide range of people and property if incident occurs in a heavily populated area.

Location

Since hazardous materials that could cause air contamination are transported along highways, waterways, and airways throughout the County there is a possibility of air contamination occurring anywhere. However, the most likely locations are industrial and chemical manufacturing, storage, and transportation facilities. The most damaging incidents to life and property would be caused by a release that occurred during the transportation of a contaminant on highways in the city of Niagara Falls, city of Tonawanda or city of Lockport. The Niagara County Critical Infrastructure Database shows the locations of these sites and the concentration of these sites in certain areas throughout the County such as the city of Niagara Falls.

4.2.2.7 Epidemic (Human)

An epidemic is the occurrence or outbreak of disease to an unusual number of individuals or portions of the human population, during a given period, at a rate substantially exceeding what is normally expected. An epidemic might be restricted to one area of the County or it might be more general or even global in the case of a pandemic. While an epidemic could be a natural occurrence, for the purposes of this plan it is considered to be the result of the intentional release of a biological agent. Epidemics can involve a single exposure, multiple exposures or a continuous exposure to the disease-causing agent. The disease involved in an epidemic

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can be transmitted by a vector, from person to person, or from a common source such as contaminated water.

Probability of Occurrence

Past occurrences are not a good indication of the likelihood of future occurrences in the case of an epidemic. Several factors increase the probability of an epidemic to occur. The County's location along an international border makes it susceptible to outbreaks stemming from the infection of passengers or cargo traveling over the border. Additionally, the County's location along the border, and the population clusters surrounding critical infrastructure located along the border, may make it an attractive target to persons who would intentionally cause an outbreak through the release of a biological agent. The large number of chemical and hazardous materials industrial sites throughout the County leave open the possibility that an accidental release of a chemical agent will cause a public health emergency. Finally, the many agricultural sites throughout the County may increase the risk of zoonotic diseases within the County, potentially the highly pathogenic H5N1 (avian flu).

Past Occurrences

There have been relatively few past occurrences of epidemics within Niagara County and none have occurred in recent years although a suspected case of SARS was experienced in 2003. In 1930 there was a typhoid epidemic involving 50 diagnosed cases throughout the County and five deaths; however, there are no records indicating that a major epidemic has occurred since that time.

Severity

It is not possible to state with any specificity what the likely severity of an epidemic impacting Niagara County might be. However, due to the location of the County on an international border, there is a potential for a highly pathogenic virus to appear and spread throughout the County. Additionally, the County's location along the border makes it more likely to experience intentional epidemics or public health emergencies caused by the intentional release of a biological agent. The accidental release of a chemical agent from one of the County's many hazardous materials and chemical industrial sites could also cause an incident of significant severity. Any zoonotic outbreak impacting agricultural facilities throughout the County would have a very significant impact.

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Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for an occurrence.

4.2.2.8 Transportation Accident

A transportation accident hazard is a mishap involving one or more conveyances on land, sea, and/or in the air. These accidents occur between motor vehicles, aircraft, railcars, and sea vessels throughout the nation. Transportation accidents can result in mass casualties and/or substantial loss of property.

Probability of Occurrence

Transportation accidents are common occurrences throughout the United States. In the United States, Americans drove over 2.965 billion highway miles in 2005, resulting in 1.47 deaths per every 100 million miles traveled. Although this rate has declined by 17% since 1995, the number of people killed each year has increased by approximately 2,000 people during the same time frame. Motor vehicle accidents on the nation's highways killed over 39,000 people in 2005. Based on past occurrences, there is a high probability of motor vehicle accidents that cause death and injury occurring within Niagara County; however, the probability of aircraft, railcars, and sea vessels accidents is much lower.

Past Occurrences

In 2000, New York State Department of Motor Vehicles reported that there were 392,245 motor vehicle accidents involving 714,839 total vehicles. In that same year, Niagara County experienced 4,100 motor vehicle accidents. Aviation accidents have occurred 36 times throughout New York State from August 2005 to August 2006. Of these accidents none have occurred within Niagara County, however, six minor accidents have occurred in the County within the past 10 years. Although several transportation accidents for railcars and sea vessels have occurred in New York State within the past 10 years, none have occurred in Niagara County.

In 2000, New York State experienced 392,245 motor vehicle accidents, which caused 1,444 fatalities and 292,664 injuries (see Table 4-28). Data for the exact costs for the total property damage caused by these accidents is not available; however, of the accidents reported over 51% caused damage of \$1,000 or greater. In New York State during the same time period, passenger cars were involved in accidents 78% of the time, and were involved in more fatal, injury and property damage accidents than all other vehicle types combined. Truck/Tractor trailers were involved in the sec-

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and most accidents, 10% of the time. However when truck/tractor trailers were involved in an accident, there was a higher incidence of fatalities than when passenger cars are involved. Table 4-28 details vehicles involved in motor vehicle accident in New York State during 2000.

Table 4-28 Motor Vehicles Involved in Accidents by Vehicle Type in New York State, during 2000

Vehicle Type	Vehicles involved in Fatal Accidents	Vehicles involved in Personal Injury Accidents	Vehicles involved in Property Damage Accidents	Total Vehicles involved in Accidents
Passenger Cars	1,456	281,054	274,777	557,287
Motorcycle	126	3,694	488	4,308
Moped	1	127	14	142
For Hire	74	20,769	10,432	31,275
School Bus	6	921	972	1,899
Emergency Vehicle	18	1,840	1,323	3,181
Truck/Tractor Trailer	385	28,980	45,875	75,240
Towing Vehicles	5	453	456	914
All Others	47	12,940	24,605	40,592
Unspecified	0	0	1	1
All Vehicles	2,118	353,778	358,943	714,839

Source: 2003 New York State Statistical Yearbook.

In 2000, Niagara County experienced 4,100 motor vehicle accidents, which caused 13 fatalities and 2,771 injuries (see Table 4-29). Data for the exact costs for the total property damage caused by these accidents is not available; however, of the accidents reported over 53% caused damage of \$1,000 or greater. In 2004, New York State had a fatality rate of 7.78 and injury rate of 1,148.57 per 100,000 people. The fatality rate is slightly higher than the 5.9 deaths per 100,000 people, Niagara County experienced in 2000. The injury rate for Niagara County in 2000 was slightly higher than the state rate, with 1,260 injuries occurring for every 100,000 people. Based on both of these rates, Niagara County can expect between 13 to 18 deaths and 2,500 to 2,800 injuries related to motor vehicle accidents annually. Table 4-30 detailed accident rates for New York State during 2004.

Table 4-29 Motor Vehicle Accidents by Severity, 2000

Location	Fatal Accidents	Fatalities	Personal Injury Accidents	Persons Injured	Property Damage Accidents (greater than \$1,000)	Total Reported Accidents
Niagara County	13	13	1,894	2,771	2,193	4,100
New York State	1,358	1,444	188,770	292,664	202,117	392,245

Source: New York State Department of Motor Vehicles, 2000 Statewide Statistical Summary.

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Table 4-30 New York State 2004 Accident Rates

Accidents	Fatal Accident	Injury Accidents	Persons Killed	Persons Injured
Per 100,000 Population	-	-	7.78	1,148.57
Per 100,000 Licensed Drivers	-	-	13.29	1,962.63
Per 100 Million Miles of Travel	1	112.7	1.09	160.58

Source: New York State Department of Motor Vehicles, 2004 Statewide Statistical Summary

A review of the major aviation accidents in New York State within the past year has identified 36 accidents, resulting in eight deaths and 28 injuries (see Table 4-31). The National Transportation Safety Board (NTSB) has only identified four aviation incidents resulting in major investigations occurring in New York State within the past 10 years. Of these accidents two were related to the 9/11 terrorism attacks, which are not considered a transportation accident, but are discussed in the terrorism section. The worst crash occurring during that time that occurred in November of 2001 resulted in 260 fatalities on board the aircraft and five additional fatalities on the ground at the crash site (see Table 4-32).

There have not been any aviation accidents in the past year resulting in a major investigation within Niagara County. However, according to NTSB statistics, there have been six minor accidents occurring in the past 10 years (see Table 4-33). These have resulted in no fatalities and only one minor injury. The major cause of four of the six accidents was directly related to pilot error. Niagara County has a low occurrence of aviation accidents, of those accidents that do occur there is a low likelihood of death or injury.

Table 4-31 Major Aviation Accidents reported by the National Transportation Safety Board for New York State, August 2005 to August 2006

Date	Location	County	Make / Model	Fatalities	Injuries
8/17/2006	Canandaigua	Ontario	Scheibe SF-28A	1	0
7/15/2006	Plattsburgh, NY	Clinton	Cessna 182A	0	1
6/30/2006	Montgomery, NY	Orange	Baker, Timothy Falco F8L	0	1
6/21/2006	White Plains, NY	Westchester	Cessna 172S	0	1
6/17/2006	Parma, NY	Monroe	Taylorcraft DC-65	0	2
6/16/2006	Brookhaven, NY	Suffolk	Rotorway 162-F	0	1
6/13/2006	Mayville, NY	Chautauqua	Taylorcraft BC12-D	1	1
6/8/2006	New York, NY	New York	Boeing 737-300	0	0
6/2/2006	Montgomery, NY	Orange	Howe/Wilmer Lancair 360	1	0
5/29/2006	Goshen, NY	Orange	Aerospatiale AS-350BA	0	2
5/28/2006	Mattituck, NY	Suffolk	Hughes 369HS	0	1
5/24/2006	Millbrook, NY	Dutchess	Espinal Velocity Jet 900	0	1

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Table 4-31 Major Aviation Accidents reported by the National Transportation Safety Board for New York State, August 2005 to August 2006

Date	Location	County	Make / Model	Fatalities	Injuries
5/4/2006	Kings Park, NY	Suffolk	Schweizer 269C	0	2
2/11/2006	Essex, NY	Essex	Cessna 180J	0	2
1/2/2006	Yonkers, NY	Westchester	Piper PA-28-161	0	2
12/28/2005	Jamestown, NY	Chautauqua	Piper PA-22	0	0
12/14/2005	Dunkirk, NY	Chautauqua	Piper PA-46-310P	0	0
12/14/2005	Dunkirk, NY	Chautauqua	Smith, Ted Aerostar 601P	0	0
11/15/2005	Southampton, NY	Suffolk	Cessna 208	0	3
11/11/2005	Montgomery, NY	Orange	Beech F33A	0	0
10/23/2005	East Hampton, NY	Suffolk	Cessna 411	1	0
10/21/2005	Esperance, NY	Schoharie	Beechcraft BE-24R	0	3
10/16/2005	Ogdensburg, NY	St. Lawrence	Beech 1900D	0	0
10/11/2005	New York City, NY	New York	Sikorsky S-76B	0	0
10/7/2005	Ithaca, NY	Tompkins	Mooney M20K	0	1
9/25/2005	Southampton, NY	Suffolk	Cessna 182	0	0
9/23/2005	Farmingdale, NY	Nassau	Beech BE-36	0	0
9/19/2005	Broadalbin, NY	Fulton	Hart NONE	0	0
9/6/2005	Babylon, NY	Suffolk	Piper PA-28-161	0	3
8/26/2005	Dunkirk, NY	Chautauqua	Piper PA-28RT-201	3	0
8/21/2005	Hancock, NY	Delaware	Piper PA-24-180	0	0
8/13/2005	Rhinebeck, NY	Dutchess	Palen Nieuport II	0	1
8/12/2005	White Sulfur Springs, NY	Sullivan	Cessna 150M	1	0
8/6/2005	Penn Yan, NY	Yates	Grumman-Schweizer G-164A	0	0
8/6/2005	East Moriches, NY	Suffolk	Cessna 182B	0	0
8/6/2005	White Plains, NY	Westchester	Cessna 172S	0	0
Total:				8	28

Source: National Transportation Safety Board, Publications <http://www.nts.gov/Publictn/publictn.htm>

Table 4-32 Aviation Accidents in New York State Resulting in a Major Investigation, 1996 to Present

Date	Location	Aircraft	Total Fatalities/ Injuries	Description
9/11/2001	New York City, NY	Boeing 767-200ER	65 Fatalities (aircraft only)	Terrorism- Crashed into World Trade Center
9/11/2001	New York City, NY	Boeing 767-200ER	95 Fatalities (aircraft only)	Terrorism- Crashed into World Trade Center
11/12/2001	Belle Harbor, NY	Airbus Industries A300B4-605R	265 Fatalities	Crashed into a residential area due to the in-flight separation of the vertical stabilizer as a result of the loads beyond ultimate design.

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Table 4-32 Aviation Accidents in New York State Resulting in a Major Investigation, 1996 to Present

Date	Location	Aircraft	Total Fatalities/ Injuries	Description
10/19/1996	LaGuardia Airport, NY	McDonnell Douglas MD-88	3 Injuries	Crashed due to pilot's use of monovision contact lenses. Due to bad weather conditions pilot had a misperception of the airplane's position relative to the runway during the visual portion of the approach.

Source: National Transportation Safety Board, Publications <http://www.ntsb.gov/Publictn/publictn.htm>

Table 4-33 Aviation Accidents in Niagara County since 1996

Accident Date	Location	Aircraft	Fatalities	Injuries	Description
5/13/2005	Sanborn, NY	Aeronca 65	0	1	Pilot error and subsequent loss of engine power during cruise flight.
8/11/2001	Gasport, NY	Piper J3C-65	0	0	Pilot error.
8/7/2001	Lewiston, NY	Hughes 269C	0	0	Pilot error and loss of engine power for undetermined reasons.
7/19/2001	Town of Niagara, Miller Rd. and Lee Dr.	McDonnell Douglas 369E	0	0	The right skid getting snagged on the helicopter-dolly resulting in dynamic rollover
11/28/1998	Gasport, NY	King KITFOX IV	0	0	A collision with a deer while landing.
3/17/1998	Lockport, NY	Cessna 150	0	0	Pilot error and carburetor icing conditions.

Source: National Transportation Safety Board, Publications <http://www.ntsb.gov/Publictn/publictn.htm>

The NTSB has identified four major marine accidents which occurred in New York State since 1995 (see Table 4-34). Based on the data these accidents, although less frequent than air or motor vehicle accidents, caused more damage and resulted in high numbers of deaths and injuries per accident. The accidents reported by the NTSB resulted in 33 deaths and 83 injuries and caused over \$9 million in property damage. None of these reported incidents occurred in Niagara County, or on any waterways bordering the County. Although no major marine accidents have occurred in Niagara County in the past 10 years, Niagara County has the potential for a major accident to occur due to the use of vessels within the Niagara River and Lake Ontario. Niagara Falls on the river is a

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major hazard to vessels unaware or unfamiliar with the rapids and falls on the river.

Table 4-34 Major Marine Accidents reported by the National Transportation Safety Board for New York State, 1995 to 2006

Date	Location	County	Vessel Type	Fatalities	Injuries	Property Damage (\$)	Description
October 2, 2005	Lake George	Warren	Passenger vessel	20	9	21,000	Vessel capsized due to high waves caused by one or more vessels on its starboard side.
October 15, 2003	Staten Island	Richmond	Ferry	11	70	8,000,000	Accident caused by the assistant captain's unexplained incapacitation and the failure of the NYC DOT to implement and oversee safe, effective operating procedures for its ferries.
November 17, 2000	New York City	New York	Small passenger vessel	0	1	1,200,000	Fire on board caused by inadequate inspection and maintenance of the vessel's electrical system.
January 28, 1998	Montauk	Suffolk	Commercial Fishing vessel	1	3	500,000	Vessel sunk due to flooding.
Total				33	83	9,721,000	

Source: National Transportation Safety Board, Publications <http://www.nts.gov/Publictn/publictn.htm>

The NTSB has identified seven major railroad accidents which have occurred in New York State within the past 10 years (see Table 4-35). These railroad accidents have resulted in approximately \$12 million and cause three deaths and 141 injuries. Although, none of these incidents occurred within Niagara County, there is a potential for a major railroad accident, since there are many industries within the County that rely on railroads for transporting their products to and from the County.

Table 4-35 Major Railroad Accidents reported by the National Transportation Safety Board for New York State, 1995 to 2006

Date	Location	County	Railroads	Fatalities	Injuries	Property Damage (\$)	Description
March 10, 2004	Queens	Queens	Long Island Rail Road and New York & Atlantic Railway	0	4	83,000	Multiple high-way/railroad grade crossing collisions
September 27, 2002	Jamaica	Queens	AirTrain-JFK (Port Authority of New York and New Jersey)	1	0	7,650,000	Derailment

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Table 4-35 Major Railroad Accidents reported by the National Transportation Safety Board for New York State, 1995 to 2006

Date	Location	County	Railroads	Fatalities	Injuries	Property Damage (\$)	Description
February 5, 2001	Syracuse	Onondaga	CSX Railroad	0	62	280,600	Rear-End Collision of Amtrak train with CSXT Freight train
March 6, 1996	Selkirk	Albany	Consolidated Rail Corporation Selkirk Yard	0	1	63,000	Tank car structural failure with the release and ignition of propane
June 29, 1996	Lyons	Wayne	Consolidated Rail Corporation's River line	1	0	Not Reported	Freight train TV-77 struck a Loram Badger ditch digger
February 9, 1995	Brooklyn	Brooklyn	New York City Transit subway	0	15	1,500,000	Metropolitan Transportation Authority/New York City Transit subway train collided with a stopped subway train
June 5, 1995	Brooklyn	Brooklyn	New York City Transit subway	1	69	2,300,000	Collisions of two New York City Transit subway trains on the Williamsburg Bridge
Total				3	141	11,876,600	

Source: National Transportation Safety Board, Publications <http://www.nts.gov/Publictn/publictn.htm>.

The USDOT, Federal Railroad Administration (FRA) reported that Niagara County has experienced a total of 37 railroad incidents resulting in four fatalities from January 2001 to June 2006 (see Table 4-36). The County has had seven train accidents, such as incidents involving on-track rail equipment including derailments during that same time period, of which none resulted in a fatality. There have been six highway-rail accidents consisting of any impact between the rail car and a motor vehicle, of which resulted in two deaths since January 2001. Highway-rail incidents comprised only 16% of the incidents reported, but resulted in 50% of the fatalities. The County has a total of 157 public and private rail crossings, these areas are considered to be the highest potential for a fatal rail incident. Table 4-37 identifies the counties top 15 highway-rail crossings that are most vulnerable to an accident. The USDOT Federal Railroad Administration determined which highway-rail crossings have the highest potential for an accident, based on the physical and operating characteristics and five years of accident history at each crossing. Other rail accidents reported by the FRA include incidents such as trespassing on rail property and any maintenance work for the rail car. This type of incident occurred in Niagara County 25 times since 2001, which consisted of the majority of incidents reported, and has resulted in two fatalities. These types

4. Hazards in Niagara County

of incidents although potentially fatal, do not represent a significant hazard for the County.

**Table 4-36 Niagara County Railroad Incidents
January 2001 to June 2006**

Year	Accident Type	Number of Incidents	Fatalities
2006 (January to June)			
	Train Collisions	1	0
	Derailments	0	0
	Highway-Rail	1	0
	Other	1	0
2005			
	Train Collisions	0	0
	Derailments	0	0
	Highway-Rail	0	0
	Other	2	0
2004			
	Train Collisions	0	0
	Derailments	1	0
	Highway-Rail	0	0
	Other	6	0
2003			
	Train Collisions	0	0
	Derailments	2	0
	Highway-Rail	2	1
	Other	7	1
2002			
	Train Collisions	0	0
	Derailments	2	0
	Highway-Rail	1	0
	Other	7	0
2001			
	Train Collisions	0	0
	Derailments	1	0
	Highway-Rail	2	1
	Other	1	1
Total		37	4

Source: Federal Railroad Administration "Accident/incident Overview by Region/State Database"

<http://safetydata.fra.dot.gov/OfficeofSafety/Query/Default.asp?page=stateoverview.asp>

4. Hazards in Niagara County

Table 4-37 Niagara County's Highway-Rail Crossing Accident Prediction Ranking by the USDOT Federal Railroad Administration

County Rank	Predicted Accident Per Year	Crossing	Railroad	City	Road	Warning Device	Total Trains per day	Average Annual Daily Highway Traffic Count
1	0.067561	514378E	CSX	North Tonawanda	Felton St.	Gate	9	3,899
2	0.067514	514237R	CSX	North Tonawanda	Ward Rd.	Gate	9	3,881
3	0.065709	514374C	CSX	North Tonawanda	Witmer Rd.	Gate	9	3,232
4	0.026317	507863V	CSX	Niagara Falls	Highland Ave.	Crossbucks	0	2,000
5	0.026133	520807U	FRR	Lockport	Park Ave.	Crossbucks	5	2,811
6	0.022979	514380F	CSX	North Tonawanda	Wheatfield St.	Gate	13	6,534
7	0.022655	514382U	CSX	North Tonawanda	Robinson Rd.	Gate	10	3,262
8	0.018532	514383B	CSX	North Tonawanda	Thompson St.	Gate	10	1,450
9	0.018266	520826Y	CSX	Pendleton	Saunders Rd./ State Rd. 31	Gate	5	9,775
10	0.017096	520833J	CSX	Lewiston	Walmore Rd.	Gate	5	4,507
11	0.017002	513200C	CSX	North Tonawanda	Jagow Rd.	Gate	9	1,919
12	0.016358	520801D	FRR	Lockport	Hawley St.	Flashing Lights	5	1,603
13	0.015762	520830N	CSX	Sanborn	Buffalo St.	Gate	5	5,494
14	0.015041	520800W	FRR	Lockport	North Transit Rd.	Gate	5	4,586
15	0.015027	520813W	CSX	Lockport	Town Line Rd.	Gate	5	4,570

Source: USDOT Federal Railroad Administration Office of Safety Analysis, Highway-Rail Crossing Safety and Trespass Prevention. "Accident Prevention Report for Public at Grade Highway-Rail Crossing, Niagara County", September 20, 2006

Severity

Transportation accidents can occur at any time within Niagara County. The onset of an incident will occur without warning and last several hours to one day. Recovery from a transportation accident could take a day to a week depending on the duration and severity of the incident. A few thousand motor vehicle accidents will occur each year in the County and have a high likelihood of resulting in death and injury. A minor aviation accident will occur within Niagara County at least once every 2 to 3 years. However, there is the potential for an accident to occur resulting in high numbers of deaths and injuries due to the presence of the Niagara International Airport within the County. Vessel and railroad accidents have not occurred in Niagara County within the past 10 years; however, there is a potential for an accident to occur in the County that could result in high numbers of fatalities and injuries, not unlike incidents recorded in the past 10 years within New York State.

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for an occurrence.

4. Hazards in Niagara County

4.2.2.9 Conventional Bomb or Improvised Explosive Device

A conventional bomb or improvised explosive device hazard is the threat or actual detonation of an explosive device or material with the potential of inflicting serious injury to people or damage to property. Bombs can be delivered to potential target by the person leaving it by a building/open area, truck/car bomb, mail bomb or other improvised explosive.

Probability of Occurrence

Over a four-year period 2,667 actual or attempted bombings occurred within the United States.

Past Occurrences

According to the United States Bureau of Alcohol, Tobacco, Firearms and Explosives, there have been 2,667 actual and attempted bombing occurrences in the United States from 2000 to 2003 (see Table 4-38). These incidents have caused 51 deaths, 314 injuries and resulted in over \$23 million in damage. The most costly of these incidents are actual incendiary bombings which cause the most property damage per incident. On average an actual incendiary incident caused approximately \$37,000 in property damage of which 10.3% of the incidents caused death or injury. This is compared to non incendiary bombing which caused approximately \$2,500 in damage of which 11.7% of the incidents caused injury or death. Attempted bombing on average caused \$705 in damages per incident and resulted no death or injury.

Table 4-38 Bombing Incidents reported by the United States Bureau of Alcohol, Tobacco, Firearms and Explosives, 2000 to 2003

Incident Type	Total	Injuries	Fatalities	Damage (\$)
Actual (2000 to 2003)	1,495	156	20	3,795,486
2003	220	19	5	506,912
2002	391	43	3	1,440,123
2001	378	51	4	1,433,796
2000	506	43	8	414,655
Actual Incendiary (2000 to 2003)	514	31	23	18,986,702
2003	74	10	1	4,630,900
2002	130	6	7	3,699,385
2001	176	8	8	5,813,096
2000	134	7	7	4,843,321

4. Hazards in Niagara County

Table 4-38 Bombing Incidents reported by the United States Bureau of Alcohol, Tobacco, Firearms and Explosives, 2000 to 2003

Incident Type	Total	Injuries	Fatalities	Damage (\$)
Attempted (2000 to 2003)	361	0	0	10,476
2003	43	0	0	1,500
2002	114	0	0	6,540
2001	118	0	0	2,431
2000	86	0	0	5
Attempted Incendiary (2000 to 2003)	172	0	0	5,450
2003	24	0	0	2,200
2002	44	0	0	400
2001	59	0	0	1,450
2000	45	0	0	1,400
Premature Explosion (2000 to 2003)	125	127	8	677,250
2003	25	26	1	267,000
2002	32	31	3	7,000
2001	32	39	0	28,250
2000	36	31	4	375,000
All Incidents (2000-2003)	2,667	314	51	23,475,364

Source: U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives, "Explosive Incidents Report for Bombing" 2000, 2001, 2002, 2003.

Severity

Conventional bomb incidents can occur at any time. The onset of this hazard can occur with or without warning and can be several hours to several days in duration. Recovery from this incident can be several hours to two weeks, depending on whether the incident is the threat of a bomb or an actual explosion. Of the bombing incidents reported by the United States Bureau of Alcohol, Tobacco, Firearms and Explosives, caused over \$23 million in property damage and resulted in 51 deaths and 314 over a four-year period. It is expected that a bombing incident occurring within Niagara County would cause significant property damage along with the possibility of deaths and injuries.

Location

There are no geographic boundaries associated with this hazard. Therefore, all of Niagara County is considered to be a potential location for an occurrence.

5

Vulnerability and Risk Assessment

Overall Hazard Impact:

Section 2.1.2 below provides a description of the County's vulnerability to each hazard profiled in Section 4 above including a description of the extent of potential impacts including risk and loss. A table providing the results of the multi-jurisdictional risk assessment is contained in Section 5.2. Where appropriate the unique potential impacts, specific to one City, Town or Village are described that jurisdiction's appendix (See appendices D through V).

5.1 Assessing Vulnerability: Impact of Hazards on the Community and Critical Infrastructure

In order to assess the impact of the identified hazards within Niagara County, the Planning Team examined the vulnerable populations and critical infrastructure present within the County. Potential loss estimates were then developed based on the location and character of the assets and infrastructure present. The discussion below presents the results of these planning activities.

5.1.1 Identification of Critical Infrastructure and Vulnerable Assets

In developing its Comprehensive Emergency Management Plan, Niagara County established a Critical Infrastructure Database. This database includes information about the location of the critical infrastructure throughout the County and these locations have been mapped using Geographic Information Systems (GIS). Where available, the County has also compiled information on the size, use, value and ownership of each asset identified. The Critical Infrastructure Database was examined and updated by the Planning Team for use during the development of the Hazard Mitigation Plan in order to identify critical infrastructure and for use as a tool to analyze the potential vulnerabilities of that infrastructure. The Critical Infrastructure Database and the resulting maps allowed the Planning Team to establish a current understanding of what is at risk in the County and get an emerging picture of what the County stands to lose after a hazard event impacting any geographic region within the County.

In compiling the Critical Infrastructure Database, the Planning Team adopted the definition of "critical infrastructure" found in the United States Patriot Act which defines the term as *"any system or asset, whether physical or virtual, so vital to a municipality that the inca-*

5. Vulnerability and Risk Assessment

capacity or destruction of such a system or asset would have a debilitating impact on security, economic security, public health or safety or any combination of those matters". In keeping with this definition the following categories of critical infrastructure have been used to organize the Countywide database:

- Commercial Real Property;
- Religious/Non-profit;
- Food;
- Water;
- Public Health;
- Agricultural;
- Emergency Services;
- Government;
- Defense Industrial Base;
- Information Telecommunications;
- Transportation;
- Banking and Finance;
- Chemical Industry and Hazardous Materials;
- Energy and Utilities; and
- Postal and Shipping.

In addition to the statutory definition, the Planning Team considered the following criteria established by the FEMA to help in determining which specific facilities should be considered critical for the purposes of vulnerability assessment and emergency management planning:

A facility, building, or infrastructure is critical if it is owned or operated by the County or other participating jurisdiction and it is:

- *Essential to the health and welfare of the population, especially after a hazard event;*
- *A transportation system component;*
- *A lifeline utility systems component;*
- *Associated with a high potential loss; or*
- *A hazardous materials facility.*

It should be noted that critical infrastructure was not excluded from the database if it is not owned or operated by the County or another participating jurisdiction. Rather, these privately owned facilities

5. Vulnerability and Risk Assessment

are included in the database due to the potential for an incident at such a private facility to impact the surrounding jurisdictions. For example, a catastrophic failure of the Niagara Power Dam would result in major impacts to the surrounding jurisdictions and the County and should be considered as an item of critical infrastructure even though it is owned by the New York Power Authority.

A copy of the Niagara County Critical Infrastructure Map, showing all the identified critical infrastructure and potentially vulnerable locations throughout the County is shown in Figure 5-1. A copy of the Niagara County Critical Infrastructure Database is included in Appendix Y.

5.1.2 Existing Vulnerable Critical Infrastructure in Hazard Areas

The Niagara County Critical Infrastructure and Risk Management Report (Report) which is now under development provides a comprehensive, prioritized list of critical infrastructure throughout the County and examines the vulnerability of these structures. A seven-person team (Critical Infrastructure Planning Team) was assembled from a variety of departments in local and county government throughout Niagara County in order to develop the Report. The critical infrastructure list found in Appendix Y of this Plan was used as the starting-point for the development of the Report. The entire Critical Infrastructure List was reviewed by each member of the Critical Infrastructure Planning Team, and each infrastructure item was examined and ranked high-, medium-, or low-priority based on a 1 through 5 ranking system (1 = lowest and 5 = highest). Several considerations were taken into account when ranking each piece of critical infrastructure including:

- Potential for causing greatest harm;
- Impact to the surrounding community; and
- Need within the community.

Once the list had been thoroughly reviewed by all team members, the focused list was then grouped into three tiers:

- **Tier 1:** Considered Highest Priority;
- **Tier 2:** Considered Higher Priority; and
- **Tier 3:** Considered High Priority.

5. Vulnerability and Risk Assessment

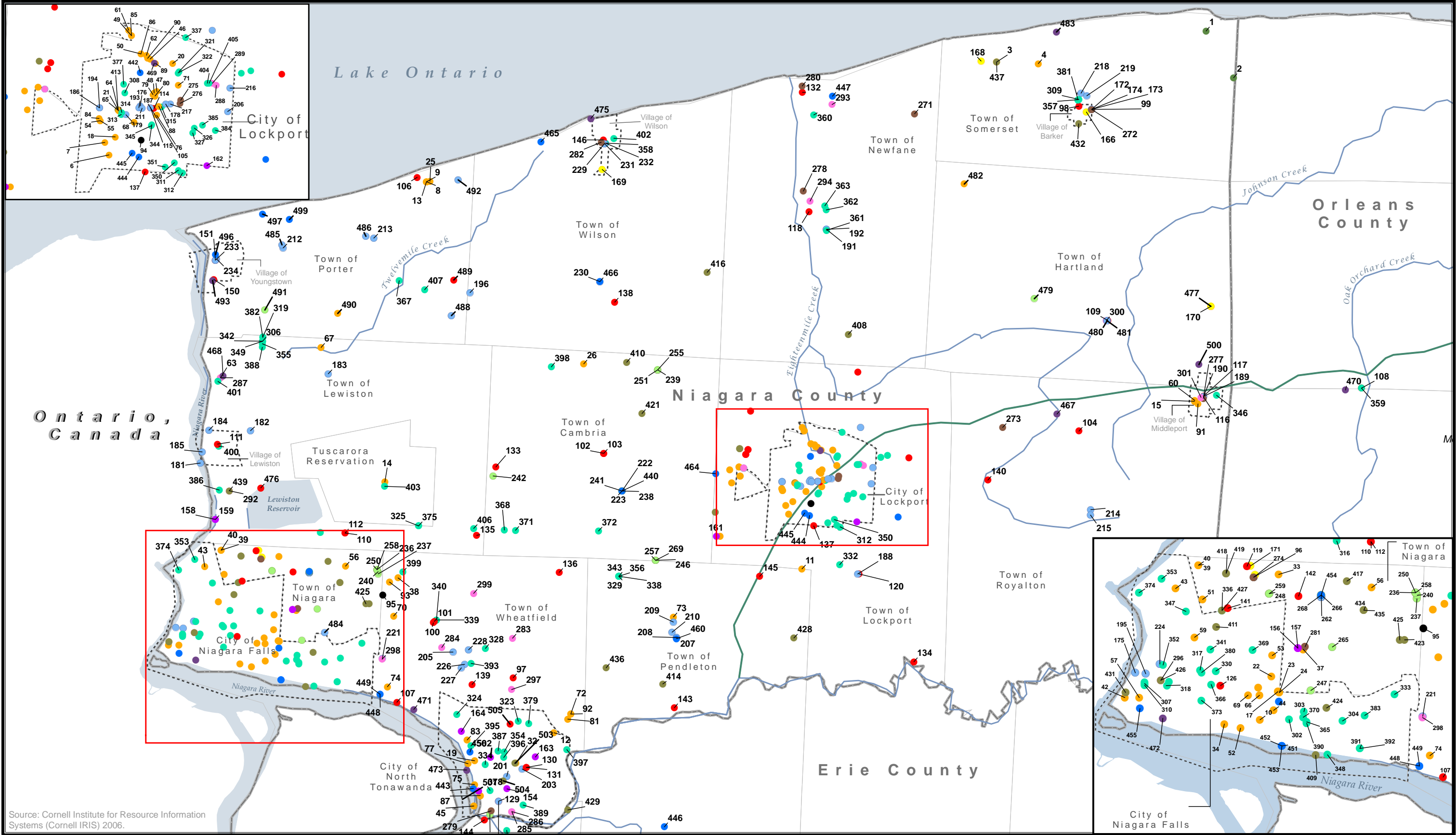
In total, 55 critical infrastructure locations were identified and ranked in the draft prioritized list to date, 16 of which are identified as Tier 1 locations. . Once the final list is adopted by the Critical Infrastructure Planning Team members it will be used in developing the programs to protect the most critical infrastructure in the County. Following this, the Critical Infrastructure Planning Team will propose recommendations on the next steps to implement additional protective measures of the critical facilities that will result in a reduction in risk and potential for future losses within Niagara County. The focus of the Critical Infrastructure Planning Team is to develop plans to reduce the cost of disasters to property owners and all levels of local government, protect critical infrastructure, reduce exposure to liability, and minimize community disruption from natural and manmade disasters.

It is important to note that the Report identifies examples of protective measures for some of the critical infrastructure sites. Following identification of potential protective measures for high-priority critical infrastructure (Tier 1), these measures will be implemented. When resources become available, either through government budgets, grant funding, or other fiscal allocations, it is necessary to balance the resource against the needs established in the critical infrastructure protective measures. Priority will be given to Tier 1 sites, the most critical pieces of infrastructure in the County. However, if either all of the vulnerabilities for these resources are addressed or money is not adequate to implement a protective measure, the sites in Tier 2, and then Tier 3, could then be examined for potential implementation.

Upon effective implementation of a protective measure, the Critical Infrastructure Planning Team will outline a methodology to monitor and measure the effectiveness of the protective measures in reducing the site's vulnerability. This monitoring program will be no less than one year in duration, and will result in an evaluation of the successes and shortcomings of the implementation measures. These evaluations will aid in future protective measures being implemented in a cost-effective and productive manner to increase the safety of the County's critical infrastructure.

5.1.3 Consideration of Population Concentrations, Land Use, and Development Trends

The Planning Team considered population concentrations, land uses, and other characteristics in determining potential vulnerabilities throughout the County (see Section 3). Additionally, the individual characteristics of each participating jurisdiction were considered. These characteristics are discussed in detail for each



Source: Cornell Institute for Resource Information
Systems (Cornell IRIS) 2006.

- | | | | |
|------------------|----------------------------------|-----------------------------------|----------------------------------|
| County Boundary | Agriculture | Food | Schools and Academic Institution |
| Town Boundary | Chemical Industry/ Hazardous Mat | Government | Transportation |
| Village Boundary | Defense Industrial Base | Information and Telecommunication | Water: Drinking Water |
| | Emergency Services | Postal and Shipping | Water: Wastewater |
| | Energy and Utilities | Public Health | |

Figure 5-1
Critical Infrastructure Facilities
Niagara County, New York

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jurisdiction in Appendices D through V. The most dense population clusters within the County are located in the city of Niagara Falls, the city of North Tonawanda and the city of Lockport. However, large percentages of the County's population reside in towns throughout the County including Lewiston, Lockport, and Wheatfield. While the agricultural lands throughout the County do not exhibit dense population clusters, they are critical in the sense that they are the predominant land use throughout the County.

The Planning Team considered development trends Countywide as exhibited in the local comprehensive plans, zoning regulations and capital improvement plans of participating jurisdictions. Each of the plans and regulations considered is listed in Appendix C. Generally, the chief considerations in these plans and regulations are economic development and the protection of specific resources, such as waterfront property. Table 5-1 shows the types and numbers of future buildings and infrastructure to be located in hazard areas and describes the potential vulnerability of each.

5.1.4 Estimating Potential Losses

This section presents loss estimates for each of the significant hazards profiled in Section 4. These loss estimates provided the Planning Team with a better understanding of the potential impacts associated with each hazard identified and with a foundation for the development of the mitigation goals and objectives set out in Section 6. Where quantitative loss estimates are possible they are presented. Where quantitative loss estimates cannot be developed because of the unpredictable nature of a hazard (such as terrorism) or a gap in existing data, a qualitative loss estimate is presented focusing on the types of impacts that can occur based on current knowledge of the particular hazard and Countywide vulnerability to the hazard.

All of the loss estimates are based upon the best and most accurate information available to date. GIS mapping has been used in some cases to identify the vulnerable critical infrastructure existing within the impact zone for a particular hazard. The hazard loss estimates below are presented in the same order as the hazard profiles shown in Section 4.

Table 5-1 Vulnerability of Future Facilities and Infrastructure

Name of Facility or Infrastructure	Project Description	Location	Description of Potential Vulnerability
HSBC Technology and Services Building	Construction of a 275,000 square foot, state-of-the-art processing facility and acquisition and installation of information technology equipment.	Lockport Road, Town of Cambria	The new facility will be vulnerable to flooding during heavy rains and severe storms and the site may experience sink holes from underground springs. Severe storms will impact the building annually causing power outages and potentially causing property damage and injuries to occupants. The building will be impacted by severe winter storms, including ice storms, on an annual basis.
Niagara Falls Memorial Medical Center Expansion	Construction of Adolescent Behavioral Unit and construction of Patient Financial Services offices to be completed in February 2009.	621 10 th Street, City of Niagara Falls	The facility will be vulnerable to an accidental or intentional incident causing a major breach at the Robert Moses Power Dam or the Lewiston Reservoir Dike. An earthquake is possible in the area of the facility, if not likely, due to a nearby fault. The facility is located near the Niagara River and the international border and may be impacted by major intentional events occurring there. The building will be impacted by severe winter storms including ice storms on an annual basis.
RMI Holdings Senior Housing Development	Construction of a senior housing complex including an additional 62 housing units.	3979 Forest Parkway, Town of Wheatfield	Due to the population it serves the facility will be particularly vulnerable to human epidemics. The facility will also have potential vulnerability to hazards which can impact the surrounding area including flooding, ice jam, severe winter storms, severe storms, hazardous materials incidents both in transit and at fixed sites, power failure, terrorism, transportation accidents, and earthquakes.

Table 5-1 Vulnerability of Future Facilities and Infrastructure

Name of Facility or Infrastructure	Project Description	Location	Description of Potential Vulnerability
DRC Development LLC, Warehousing and Manufacturing Building	Construction of an 80,000 square foot warehouse and manufacturing facility on an 18 acre parcel.	Vantage International Point, Town of Wheatfield	The facility will have potential vulnerability to hazards which can impact the surrounding area including flooding, ice jam, severe winter storms, severe storms, hazardous materials incidents both in transit and at fixed sites, human epidemics, power failure, terrorism, and earthquakes.
Hotel Development I	Construction of a 25 Story Hotel	1001 Buffalo Avenue, City of Niagara Falls	The facility will be vulnerable to an accidental or intentional incident causing a major breach at the Robert Moses Power Dam or the Lewiston Reservoir Dike. An earthquake is possible in the area of the facility, if not likely, due to a nearby fault. The facility is located near the Niagara River and the international border and may be impacted by major intentional events occurring there. The building will be impacted by severe winter storms including ice storms on an annual basis.
Seneca Management Development Corporation, Golf Course Development	Construction and operation of a professional golf course to complement the attractions provided by the Seneca Niagara Casino and hotel complex.	Town of Lewiston	The location of this facility renders it vulnerable to the effects of hazards including power failure, flood, landslide, severe storm, severe winter storm, wind storm, dam failure, hazardous materials incidents both in transit and at a fixed site and earthquakes.
JS Holding, Inc. Expansion	Purchase and expand a 22,000 square foot manufacturing facility	2122 Cory Road, Town of Wheatfield	The facility will have potential vulnerability to hazards which can impact the surrounding area including flooding, ice jam, severe winter storms, severe storms, hazardous materials incidents both in transit and at fixed sites, human epidemics, power failure, terrorism and earthquakes.

Table 5-1 Vulnerability of Future Facilities and Infrastructure

Name of Facility or Infrastructure	Project Description	Location	Description of Potential Vulnerability
Niagara Student Housing Development	Construction of student housing at Niagara County Community College.	3111 Saunders Settlement Road, Sanborn	The geographic location of this facility renders it vulnerable to the effects of hazards including power failure, flood, landslide, severe storm, severe winter storm, wind storm, dam failure, hazardous materials incidents both in transit and at a fixed site, and earthquakes. The population the facility serves is particularly vulnerable to human epidemics.
F&M Real Estate Expansion	Expansion of the Fairview Fittings manufacturing facility	3777 Commerce Court, Town of Wheatfield	The facility will have potential vulnerability to hazards which can impact the surrounding area including flooding, ice jam, severe winter storms, severe storms, hazardous materials incidents both in transit and at fixed sites, human epidemics, power failure, terrorism, transportation accidents and earthquakes.
Hotel Development II	Construction of a Holiday Inn Express Hotel & Suites	101111 Niagara Falls Boulevard, City of Niagara Falls	The facility will be vulnerable to an accidental or intentional incident causing a major breach at the Robert Moses Power Dam or the Lewiston Reservoir Dike. An earthquake is possible in the area of the facility, if not likely, due to a nearby fault. The facility is located near the Niagara River and the international border and may be impacted by major intentional events occurring there. The building will be impacted by severe winter storms including ice storms on an annual basis.

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5.1.4.1 Loss Estimate for Flooding

Risk

All jurisdictions within Niagara County are vulnerable to the impacts of flooding. As discussed in Section 4.2, approximately 5.4% of the land in Niagara County is located within the 100-year floodplain (see Figure 4-1).

Loss

Over the last 10 years, each flood event occurring within the County has caused on average of approximately \$485,000 in property damage. Injuries and deaths have occurred but not in large numbers. Flood insurance claims have emanated from all jurisdictions over the last 25 years. The city of Lockport has experienced the most costly damages from flooding of any municipality within the County.

A map showing the critical infrastructure located within the 100-year floodplain is shown in Figure 5-2. The towns of Porter, Lewiston, and Cambria and the city of Lockport all have schools or other academic institutions located within this impact zone for flooding. The cities of Niagara Falls and Lockport, as well as the towns of Wilson and Royalton, and the village of Barker have emergency service facilities falling within the impact zone. The town of Wheatfield hosts two public health facilities within the impact zone. The towns of Wheatfield and Wilson as well as the city of Lockport have government buildings located within the impact zone for flooding. The village of Middleport has a chemical and industrial facility located within the impact zone and the village of Barker has postal and shipping facilities located within the impact zone.

5.1.4.2 Loss Estimate for Severe Winter Storms

Risk

All areas within Niagara County are vulnerable to severe winter storms (see Figure 4-2). Niagara County has had 52 heavy snow events from in the last 13 years. At least one severe winter storm each year is a virtual certainty. While all buildings and infrastructure within the County are vulnerable to impacts from severe winter storms, those structures at greatest risk include older building stock that may not withstand the weight of a heavy snow.

Loss

Niagara County has experience on average, approximately \$1.5 million in damages from each severe winter storm occurring in the

5. Vulnerability and Risk Assessment

County in recent history. Injuries and deaths have occurred but not in large numbers. The most costly event occurred in November 2000 and caused \$46.2 million in property damage.

5.1.4.3 Loss Estimate for Ice Storms

Risk

All areas within Niagara County are potentially vulnerable to impacts from ice storms. Ice storms occur in Niagara County at least once every several years as discussed in Section 4.2. The greatest risk from ice storms is to trees and utility lines which can be damaged during an ice storm and cause damage or loss of use to transportation routes and loss of power and communications for significant periods of time. Agricultural communities risk significant losses from ice storms due to the crop damage they frequently cause when occurring in late spring. This is significant since almost 70% of the land within Niagara County is characterized as agricultural fields (pasture/hay/row crops) and cultivated crops.

Loss

While ice storms occur less frequently than severe winter snow storms, they tend to cause greater losses. The ice storms occurring in Niagara County over the last 13 years caused an average of \$11 million per incident in damage to property and crops.

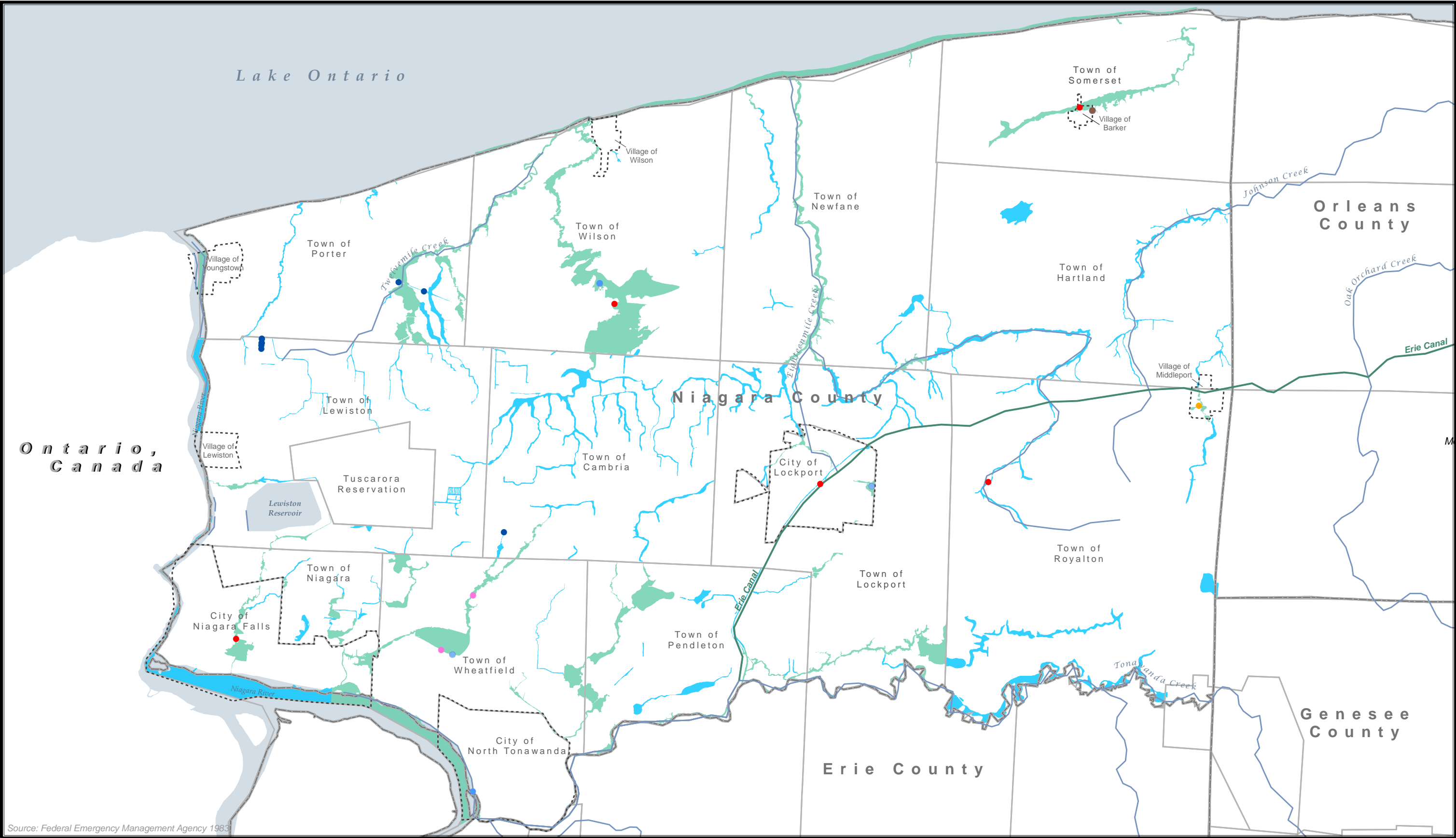
5.1.4.4 Loss Estimate for Ice Jams

Risk

While the risk of major ice jams is low, due to the reduction in occurrence and severity of since jams since the implementation of the ice booms in 1964, there is still a risk for occurrence along the rivers and creeks throughout the County, especially Tonawanda Creek (see Figure 3-3). Small bridges have been identified within several jurisdictions which would be vulnerable to failure due to ice jamming in various creeks.

Loss

The approximate known cost of damages from a typical incident of ice jamming within Niagara County, since the implementation of the ice booms is \$350,000.



Source: Federal Emergency Management Agency 1983

FEMA Flood Zone

Zone A

Zone AE

Town Boundary

Village Boundary

County Boundary

Agriculture

Chemical Industry/ Hazardous Mat

Defense Industrial Base

Emergency Services

Energy and Utilities

Food

Government

Information and Telecommunicatio

Postal and Shipping

Public Health

Schools and Academic Institution

Transportation

Water: Drinking Water

Water: Wastewater

0 2.5 5 10

Miles

Figure 5-2
Niagara County Critical Infrastructures
Falling within 100 ft of a FEMA Flood Zone
Niagara County, New York

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5.1.4.5 Loss Estimate for Severe Storms

Risk

On average Niagara County experiences 11 severe storms each year from early spring through late fall. While the entire geographic region within the County is vulnerable to severe storms, greatest vulnerability is to mobile home communities, unsheltered vehicles, older building stock, power and utility infrastructure and communities near rivers and creeks that may flood as a result of heavy rain storms. Agricultural areas are also extremely vulnerable to the impacts of severe storms. Severe lightning events are most frequently reported in the village of Barker, towns of Lewiston and Lockport, and cities of Niagara Falls. In August 2001, the town of Wheatfield experienced a damaging severe storm during which lightning struck a senior housing facility and caused \$200,000 in damages. Hail storms are most frequently reported in the towns of Porter, Wheatfield, Lockport and Newfane, and the cities of North Tonawanda and Niagara Falls. Thunderstorms accompanied by high winds impact all areas of the County annually. In September 1998, the County experienced a severe storm during which torrential rain and 4-inch diameter hail caused over \$1 million in damage to property and crops.

Loss

On average, each severe storm impacting Niagara County causes \$21,418 in property damages and an additional \$23,137 in crop damages. This amounts on average to a total of \$490,105 in damages from severe storms each year. While deaths are not expected, injuries from severe storms are expected but in low numbers.

5.1.4.6 Loss Estimate for High Wind

Risk

Niagara County is vulnerable to high winds gusting up to 200 miles per hour according to FEMA data (see Figures 4-3 and 4-4). All geographic areas within Niagara County are vulnerable to damage from incidents of high winds, however, much like severe storms, certain assets and areas are more vulnerable to the impacts of such events. These include mobile home communities, unsheltered vehicles, older building stock, as well as power lines and utility infrastructure.

Loss

Incidents of high wind, excluding thunderstorm events (see Section 5.1.4.5), have cost the County on average of \$1.08 million per

5. Vulnerability and Risk Assessment

event over the last 13 years. High winds have been responsible for three deaths in the last 13 years and for injuries in low numbers.

5.1.4.7 Loss Estimate for Tornadoes

Risk

A tornado could occur anywhere within Niagara County; however, the only two recorded tornadoes occurring within the last 20 years have struck the town of Lockport. Due to the localized impact of a tornado, relatively little damage to structures, private property, and public facilities is likely to be experienced. The most severe tornado ever recorded within the County had a magnitude of F1 which could result in wind speeds high enough to cause roof damage, overturn mobile homes, demolish old outbuildings, push moving automobiles, and fell trees.

Loss

A tornado occurring in Niagara County is likely to cause approximately \$50,000 in damages based on events experienced in recent history. Deaths or injuries are not likely.

5.1.4.8 Loss Estimate for Earthquakes

Risk

The majority of the southwestern portion of Niagara County has a 10% chance that PGA will exceed 4% of gravity within the next 50 years. The northeastern portion of the County has a 10% chance that PGA will exceed 3% within the same time frame. Impacted jurisdictions include the villages of Barker, Youngstown and Middleport, the towns of Cambria, Lewiston, Lockport, Niagara, Pendleton, Royalton, Wheatfield and Wilson and the cities of Lockport, Niagara Falls and North Tonawanda (see Figure 4-5 and Figure 4-6).

Loss

Although New York State has experienced more than 400 recorded earthquakes since 1730, accurate damage estimates are not available at this time. However, it is likely that the most severe potential earthquake occurring in Niagara County would cause approximately \$2 million in damages.

5.1.4.9 Loss Estimates for Landslides

Risk

While the majority of Niagara County experiences low incidents of landslides, a small area in the southwestern portion of the County

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has high incidences of landslides and the northwest portion in Somerset and Newfane along Lake Ontario have a moderate susceptibility of landslides (see Figure 4-7). Areas with the steepest slopes within the County are located along the Niagara Gorge and the Niagara Escarpment in Lewiston and are also vulnerable to landslides (see Figure 3-5).

Loss

It is difficult to determine the likely cost in damages from a potential landslide within the County since they happen so rarely. A map showing the critical infrastructure located within the areas most susceptible to landslides is shown in Figure 5-1. An area of high potential incidence of landslides is shown in the south western corner of the County, impacting the towns of Niagara and Lewiston, the Tuscarora Nation, and the city of Niagara Falls. Critical infrastructure within this zone of impact includes chemical industry and hazardous materials facilities, schools and academic institutions, emergency services facilities, transportation components, information and telecommunications infrastructure, government facilities, energy and utility components and defense industrial bases.

An area with moderate potential incidence of landslides is shown in the north eastern corner of the County impacting the towns of Somerset and Newfane and the village of Barker. Critical infrastructure within this zone of impact includes government buildings, schools, emergency services facilities, food and agricultural facilities, chemical industry and hazardous materials facilities, and postal and shipping infrastructure.

It should be noted that there have been four fatal landslides within the County resulting in a total of 17 deaths making these events quite dangerous to human lives and safety.

5.1.4.10 Loss Estimates for Coastal Erosion

Risk

The areas within the County at the greatest risk from coastal erosion include the areas along the Niagara River and Lake Ontario and along the Niagara Escarpment. Specifically, the towns of Cambria, Lewiston, Newfane, and Somerset experience flooding and other damaging effects from erosion.

Loss

At the time this plan was developed no data was available documenting the rate of erosion that is occurring within the County.

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Additional data on the impacts of coastal erosion must be developed before accurate loss estimates can be developed.

5.1.4.11 Loss Estimates for Hazardous Materials Incidents in Transit

Risk

For the purposes of this discussion, air contamination is treated together with all other types of hazardous materials spills in transit. Hazardous materials are transported throughout the County routinely to the many chemical and hazardous materials industrial facilities located within it. Approximately six such shipments result in an accidental hazardous materials release each year. The towns of Cambria, Hartland, Lewiston, Lockport, Niagara, Pendleton, Royalton, Somerset and Wheatfield have experienced multiple incidents of this type in the past as have the cities of Lockport, Niagara Falls and North Tonawanda and the village of Youngstown (see Figure 4-8). Jurisdictions such as the city of Niagara Falls have higher population concentrations and are situated along major waterways are vulnerable to the most severe impacts from these hazardous materials spills.

Loss

No data as to the cost of past incidents occurring in Niagara County has been recorded; however, it is expected that costs would be on the same scale as those reported nationally. According to the USDOT hazardous materials incidents cause approximately \$3,225 per incident. The cost to the environment is a significant concern since long-term losses of air and water quality are possible. Injuries and death are also a serious concern. In Niagara County there have been 13 injuries and one death from hazardous materials incidents occurring in transit over the last 5 years.

5.1.4.12 Loss Estimates for Hazardous Materials Incidents at Fixed Sites

Risk

For the purposes of this discussion air contamination is treated together with all other types of hazardous materials spills at fixed sites. Niagara County has a large number of chemical and hazardous materials industrial facilities within its borders and experiences an average of 11 hazardous materials spills at fixed facilities annually. The Critical Infrastructure Database lists 85 facilities. As shown on Figure 5-1, there are clusters of these facilities situated in areas of high population concentrations including the cities of Lockport, Niagara Falls and North Tonawanda. The towns of

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Cambria, Lewiston, Lockport, Newfane, Niagara, Somerset, Wheatfield and Wilson as well as the village of Youngstown have also recently experienced hazardous materials spills at fixed sites within their jurisdictions.

Loss

No data as to the cost of past incidents occurring in Niagara County has been recorded, nor is data on incidents reported nationally available. It is critical to note that three injuries have occurred as a result of hazardous materials releases at fixed sites over the last 5 years.

5.1.4.13 Loss Estimates for Acts of Terrorism

Risk

For the purposes of this discussion on risk and loss, acts of terrorism are treated together with intentional use of bombs or improvised explosive devices. Although the federal government continually issues threat level warnings, it is impossible to know the precise risk posed to Niagara County from an act of terrorism. While there are no geographic boundaries within which the threat of an attack can be excluded, the Planning Team has identified areas within the County at greater risk. High-risk targets within the County include military and civilian government facilities, an international airport, and high-profile landmarks such as international bridges as identified on Figure 5-1. The international boarder crossings with Canada, Niagara Falls, the Niagara Falls International Airport and the Niagara Falls Air Reserve Station are all potential targets. In addition to these fixed targets, terrorists might also attack large public gatherings, water and food supplies and utilities such as the Niagara Power Plant.

Loss

No data as to the cost of a potential incident occurring in Niagara County is available at the time of this draft. However, given the critical facilities identified on Figure 5-1 and in Appendix Y, it can be concluded that a major terrorist event of intentional bombing in Niagara County could, in the worst case, cause millions of dollars and damage and cause injuries and/or deaths in large numbers.

5.1.4.14 Loss Estimates for Power Failure

Risk

For the purposes of this discussion, small scale power outages due to high wind and ice storms are not considered since these outages are normally localized and limited in terms of the amount of time

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before power is restored. A large power outage could impact any area of the County and is likely to impact most jurisdictions at the same time.

Loss

In the past 5 years the County has experienced two significant power outages. The January 2002 storm left thousands of people without power for up to 72 hours. The August 2003 blackout impacted people throughout the northeastern United States, including Niagara County, and resulted in the loss of power to over 50 million people. At the time of publication of this report, damages and losses from the October 12, 2006, storm have not been fully calculated. Over 200,000 power customers are known to have been without electricity for a period of up to one week. Major power outages in Niagara County have resulted in damage to water facilities including pumping stations which did not have adequate back up generators to operate during a blackout. Not including economic losses, a major power outage in Niagara County could, in the worst case, cause close to a million dollars in damages. Injuries and/or deaths are likely but not in large numbers.

5.1.4.15 Loss Estimates for Dam Failure

Risk

The potential for dam failures at any of the seven dams within Niagara County is discussed in Section 4.2.2.5. As fully described in that section, the Burt Dam, Lewiston Reservoir Dike and the Robert Moses Niagara Power Dam are high-hazard dams which could impact tens of thousands of people and thousands of households and businesses if they were to experience a catastrophic failure. Figure 5-3 shows the location of all dams within Niagara County presents the impact zones for a catastrophic failure of the highest hazard dams located within the County.

Loss

The critical infrastructure within the dam failure impact zones is shown on Figure 5-1. The failure of the Robert Moses Power Dam or the Lewiston Reservoir would impact the towns of Lewiston and Niagara, the city of Niagara Falls and the Tuscarora Nation. Critical infrastructure located within this zone of impact include schools and academic institutions, transportation components, emergency services facilities, government buildings, information and telecommunications infrastructure and chemical industry and hazardous materials facilities. The failure of the Burt Dam would have a significant impact on private property and residences within the town of Newfane but is not likely to impact any critical



Source: NYS Museum / NYS Geological Survey 1990.

- | | | |
|-------------------------|----------------------------------|-----------------------------------|
| Dam Location | Agriculture | Information and Telecommunication |
| Detailed Streams | Chemical Industry/ Hazardous Mat | Postal and Shipping |
| Large Scale Hydrology | Defense Industrial Base | Public Health |
| Dam Failure Impact Zone | Emergency Services | Schools and Academic Institution |
| Village Boundary | Energy and Utilities | Transportation |
| Town Boundary | Food | Water: Drinking Water |
| County Boundary | Government | Water: Wastewater |

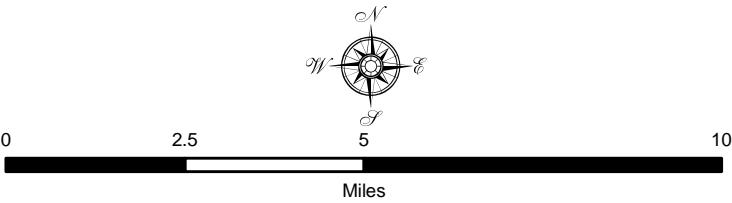


Figure 5-3
Niagara County Critical Infrastructures
Falling within 100 ft of Dam Impact Zones
Niagara County, New York

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infrastructure. The failure of the Middleport Reservoir Dam will impact chemical industrial and hazardous materials facilities, schools and academic institutions and public health infrastructure within the village of Middleport. The failure of the Middleport Reservoir Dam will also impact private facilities and residences within the town of Royalton but is not likely to impact critical infrastructure within this jurisdiction.

5.1.4.16 Loss Estimates for Epidemic Impacting Human Populations

Risk

All areas of the County are susceptible to impacts from a widespread epidemic disease outbreak. Although it is impossible to predict with certainty, the threat of such an event is quite real, for example pandemic influenza is thought by many United States public health officials to be an inevitable eventuality. Additionally, the County's location along an international border makes it susceptible to outbreaks stemming from an infection of passengers or cargo traveling over the border. The population clusters surrounding critical infrastructure located along the border may make the County a target for individuals who would intentionally cause a disease outbreak. Finally, the large number of chemical and hazardous materials facilities throughout the County leave it open to the possibility of an accidental release resulting in a public health emergency.

Loss

No data as to the potential cost of a disease outbreak occurring in Niagara County was available at the time of this report's publication. However, if one considers all factors including the cost of response at the local, state and federal level, health care costs to individuals and losses to the economy from business closures, absenteeism and loss of sales and tourism it is easy to estimate that the costs from such an incident could exceed a million dollars Countywide.

5.1.4.17 Loss Estimates for Transportation Accidents

Risk

This discussion includes consideration of motor vehicle accidents as well as accidents involving rail, marine and air transportation. All jurisdictions within the County are likely to experience a number of transportation accidents each year. In 2000, Niagara County experienced 4,100 automobile accidents Countywide. Although no major marine accidents have occurred in Niagara County, within

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the last 10 years, there is the potential for a major accident to occur during the frequent travel of marine vessels on the Niagara River and Lake Ontario. There have been a total of 37 railroad incidents within the County in the last 5 years. Rail incidents are most likely to occur in the cities of North Tonawanda and Niagara Falls and the towns of Lockport, Pendleton and Lewiston.

Loss

At least 50% of the motor vehicle accidents occurring within the County will result in damages of more than \$1,000. Accordingly it is expected that the cost of damages from automobile accidents Countywide will be at least \$2 million each year. Between 13 to 18 deaths and 2,500 to 2,800 injuries related to motor vehicles accidents are expected annually, Countywide. A single major marine or rail accident could cause more than \$2 million in damages according to New York State averages. Railroad incidents are likely to cause less than one death a year, on average Countywide. A single rail accident may cause approximately \$1.7 million in damages according to New York State averages.

5.2 Vulnerabilities of Individual Jurisdictions

Many of the significant hazards identified and profiled in Section 4 of this plan have the potential to significantly impact the entire County, while some others are a significant concern for certain jurisdictions only. Most weather events or events based on the geology or topography of the region will not impact any region of the County more significantly than others. However, vulnerable critical infrastructure within the participating jurisdictions differs significantly and some jurisdictions are more vulnerable to a specific hazard as a result. The Planning Team has identified the hazards to which each participating jurisdiction is at particular risk and the results are presented in Table 5-2. This information was assessed either from a review of the hazards that were identified by jurisdictions as having impacted them in the past, or from the hazard profiles as having a potential to impact the jurisdiction. Additionally, a vulnerability profile, discussing the most significant hazards identified, is provided for each participating jurisdiction in Appendices D through V.

Table 5-2 Multi-Jurisdictional Risk Assessment

Hazard	Niagara County	Village of Barker	Town of Cambria	Town of Hartland	Town of Lewiston	Town of Lockport	City of Lockport	Village of Middleport	Town of Newfane	Town of Niagara	City of Niagara Falls	City of North Tonawanda	Town of Pendleton	Town of Royalton	Town of Porter	Town of Somerset	Town of Wheatfield	Town of Wilson	Village of Wilson	Village of Youngstown
Coastal Erosion	X	X									X									
Earthquake	X	X	X		X	X	X	X		X	X	X	X	X			X	X		X
Flood	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ice Jam	X										X	X		X			X			
Ice Storm	X	X		X		X		X		X	X									
Landslide	X		X		X				X		X					X				
Severe Storm	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Severe Winter Storm	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tornado	X					X	X				X									X
Windstorm	X			X	X					X	X									X
Air Contamination	X			X		X	X				X									X
Dam Failure	X				X			X	X	X	X									
Bomb or IED	X									X	X									
Hazmat Fixed Site	X		X	X	X	X	X	X	X	X	X	X				X	X	X		X
Hazmat in Transit	X		X	X	X	X	X	X		X	X	X	X	X			X			X
Human Epidemic	X					X	X				X	X					X			
Power Failure	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Terrorism	X					X	X			X	X	X			X		X	X	X	
Transportation Accident	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

6

Hazard Mitigation

Mitigation Strategy:

The Planning Team developed goals for hazard mitigation to reduce or avoid long-term vulnerabilities to the natural and manmade hazards most likely to impact the County and participating jurisdictions. Objectives were then developed in order to support the achievement of these goals.

6.1 Mitigation Goals and Objectives

In keeping with the FEMA publication entitled *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies (FEMA 386-3)*, the Planning Team developed mitigation goals and objectives to support mitigation planning. Mitigation goals were developed using the results of the hazard identification and risk assessment and the detailed information provided in the hazard profiles. Other considerations in setting these goals included existing strategic planning goals and objectives at the County and local level as well as other existing policies, programs, resources and capabilities throughout the County. The mitigation goals are designed to be general guidelines explaining what the County and the participating jurisdictions want to achieve based on these considerations. The Planning Team then developed objectives to support the accomplishment of the mitigation goals and define the strategies and implementation steps to attain the identified goals. These goals and the corresponding objectives are listed below.

Goal 1

To improve the safety and security of local residents, businesses and visitors by reducing the impact of natural hazards on life, safety and property throughout the County, including economic and cascading impacts.

Objective 1.1. Implement mitigation activities that will reduce or eliminate impacts to lives and property from severe storms and severe winter storms, including ice storms.

Objective 1.2. Implement mitigation activities that will reduce or eliminate impacts to lives and property from flooding from all causes including ice jams.

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Objective 1.3. Implement mitigation activities that will reduce or eliminate impacts to lives and property from tornados and wind-storms.

Objective 1.4. Implement mitigation activities that will reduce or eliminate impacts to lives and property from earthquakes, coastal erosion and landslides.

Goal 2

To improve the safety and security of local residents, businesses and visitors by preventing or reducing the impact of man-made hazards on life, safety and property throughout the County, including economic and cascading impacts.

Objective 2.1. Implement mitigation activities that will eliminate the occurrence of, or reduce potential impacts to lives and property from hazardous materials spills at fixed sites or in transit, including incidents resulting in air contamination.

Objective 2.2. Implement mitigation activities that will eliminate the occurrence of, or reduce potential impacts to lives and property from incidents of terrorism, including incidents involving a bomb or improvised explosive device.

Objective 2.3. Implement mitigation activities that will eliminate the occurrence of, or reduce potential impacts to lives and property from incidents of power failure.

Objective 2.4. Implement mitigation activities that will eliminate the occurrence of, or reduce potential impacts to lives and property from incidents of dam failure.

Objective 2.5. Implement mitigation activities that will eliminate the occurrence of, or reduce potential impacts to lives and property from incidents of transportation accidents.

Objective 2.6. Implement mitigation activities that will eliminate the occurrence of, or reduce potential impacts to lives and property from incidents of human epidemic.

6.2 Identification and Analysis of Mitigation Actions

Mitigation Projects and Actions:

The Planning Team has identified a comprehensive range of specific mitigation actions and projects to address the hazards most likely to impact the County and participating jurisdictions. These actions and projects target the reduction of the effects of specific hazards on the safety and wellbeing of citizens and visitors as well as existing and new buildings and infrastructure. The projects and actions identified are described in Table 6-1. The prioritization of projects is discussed in Section 6.3 below.

The Planning Team has identified and prioritized a comprehensive range of specific mitigation actions. These actions target the reduction of the effects of the hazards identified Countywide on the lives and safety of people and on existing and new buildings and infrastructure. The actions identified were chosen or designed to relate to the mitigation goals and objectives listed above. The mitigation activities include a range of options including the following six types:

1. **Prevention:** This category includes administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses such as zoning, capital improvements and the like.
2. **Property Protection:** This category of actions includes the modification of existing buildings or structures to protect them from a specific hazard or the removal of structures from the area of impact for a specific hazard.
3. **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential mitigation strategies.
4. **Natural Resource Protection:** Actions that minimize losses from hazard impacts and also preserve or restore the functions of natural systems.
5. **Emergency Services:** This category includes actions that protect people and property, during and immediately following a disaster or emergency event.
6. **Structural Projects:** This category includes actions that involve structural construction projects that reduce the impact of a specific hazard such as retaining walls or culverts.

Table 6-1 lists the mitigation action identified by the Planning Team for implementation. The table contains the following information for each identified action:

- A brief description of the planned activity;
- Mitigation goals and objectives supported by each activity;

Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				Potential Funding Source		
1.	Water System Improvements- Improvements to meter pits and replacement of water mains throughout the village.	Goal 1, Objective 1.2 Goal 2 Objective 2.6	H	1,757,715 Local Budget	5 years	Village of Barker
2.	Drainage System Improvements—Replacement of inadequate drainage systems throughout the village	Goal 1, Objectives 1.1 and 1.2	H	937,625 Local Budget	5 years	Village of Barker
3.	Dredging and Cleaning, Stream bank restoration of Golden Hill Creek	Goal 1, Objectives 1.2 and 1.4	H	62,400 Local Budget	5 years	Village of Barker
4.	Installation of shoreline erosion control measures at Barker Bicentennial Park	Goal 1, Objective 1.4	MH	85,000 Local Budget, Federal Grant	5 years	Village of Barker
5.	Department of Public Works building improvements and equipment	Goal 1, Objective 1.1 Goal 2, Objectives 2.1, 2.3 and 2.5	H	402,548 Local Budget	5 years	Village of Barker
6.	Francis Street and Kelly Avenue storm sewer improvements, including the replacement of undersized culverts with 1,300 feet of new oversized drainage culverts	Goal 1, Objectives 1.1 and 1.2	H	1,000,000 Local Budget	5 years	Village of Middleport
7.	Sanitary Sewer and Wastewater Treatment Plant improvements to the sewer lines associated with infiltration and inflow	Goal 1, Objective 1.2 Goal 2, Objective 2.6	H	2,600,000 Local Budget	5 years	Village of Middleport
8.	Repair dam structure and dredge nearby streams to alleviate possible damage in the event of a dam failure	Goal 2, Objective 2.4	L	>1,000,000 Local Budget, Federal Grant	5 years	Village of Middleport
9.	Purchase personal protective equipment and train Village employees and volunteer firefighters in the use of the equipment	Goal 2, Objectives 2.1 and 2.2	H	Equipment: 607,284 Training: 380,000 Federal Grant	2 years	Village of Middleport
10.	Complete a comprehensive emergency management plan to include standard operating procedures for the most significant hazards impacting the Town of Lewiston	Goal 1, Objectives 1.1, 1.2, 1.4		\$10,000 Federal Grant	1 year	Town of Lewiston

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Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				Potential Funding Source		
	11. Purchase of Emergency Generators for town buildings including the Town Hall, Town Highway Garage, Town Water and Sewer Building and Town Court Building	Goal 2, Objective 2.3	H	165,000 Local Budget	2 years	Town of Lockport
	12. Construction of Berm/Barriers around Town Hall/Town Highway Garage to deter potential attack	Goal 2, Objective 2.2	H	50,000 Federal Grant	5 years	Town of Lockport
	13. Cleaning/Dredging Donner Creek from Transit Road to Lincoln Avenue	Goal 1, Objective 1.2 and 1.4	H	75,000 Local Budget	5 years	Town of Lockport
	14. Installation of a Detention Pond for Donner Creek	Goal 1, Objective 1.2	H	50,000 Local Budget	3 years	Town of Lockport
	15. Gradall Excavator- For ditch maintenance	Goal 1, Objective 1.1 and 1.2	H	50,000 Local Budget	2 years	Town of Lockport
6-9	16. Purchase of preparedness and response equipment for all hazards	Goal 2, Objective 2.1, 2.2 and 2.5	H	295,000 Federal Grant	1 year	Town of Lockport
	17. Emergency Back-up Power to Water Filtration Plant- Including cost for the generator, proper installation of the foundation for generator, the transfer switches needed to supply power to the plant and the proper fuel storage to keep the unit running for a protracted period	Goal 2, Objective 2.3	H	>100,000 Local Budget	2 years	City of Lockport
	18. Hardening of City Hall- Including increased protection of HVAC system and addition protection of the wall of outside communications	Goal 2, Objective 2.2	H	>10,000 Federal grant	3 years	City of Lockport
	19. Complete a comprehensive emergency management plan to include standard operating procedures for the most significant hazards impact the Town of Newfane	Goal 1, Objectives 1.1, 1.2, 1.4		10,000 Federal grant	2 years	Town of Newfane
	20. Northwest Storm Sewer, Phase II	Goal 1, Objectives 1.1 and 1.2	H	2,888,000 Local Budget	1 year	City of North Tonawanda
	21. Ward Road Storm Sewer Project	Goal 1, Objectives 1.1 and 1.2	H	1,020,800 Local Budget	1 year	City of North Tonawanda

Table 6-1 Mitigation Actions Identified for Implementation

Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
			and Potential Funding Source		
22. Meadow Drive Extension	Goal 2, Objective 2.5	H	2,000,000 Local Budget	1 year	City of North Tonawanda
23. Frederick B. Durkee Memorial Bridge Rehabilitation Project	Goal 1, Objective 1.2 Goal 2, Objective 2.5	H	1,500,000 Federal Grant	3 years	City of North Tonawanda
24. City Incinerator Site Investigation and Remedial Alternatives Report	Goal 2, Objective 2.1	H	75,000 Federal Grant	1 year	City of North Tonawanda
25. Gateway Point Park Remediation and Development	Goal 2, Objective 2.1	H	296,016 Federal Grant	1 year	City of North Tonawanda
26. Sweeney-Roberts Storm Drain	Goal 1, Objectives 1.1 and 1.2	H	27,500 Local Budget	1 year	City of North Tonawanda
27. Installation of Total Building Emergency Generating Systems for four City Fire Stations	Goal 2, Objective 2.3	H	12,500 Federal Grant	1 year	City of North Tonawanda
28. Installation of a Total Building Emergency Generating System at the Norman Keller Building, 500 Wheatfield Street	Goal 2, Objective 2.3	H	6,600 Federal Grant	1 year	City of North Tonawanda
29. Installation of Total Building Emergency Generating System at City Hall, Police Headquarters, 216 Payne Avenue	Goal 2, Objective 2.3	H	10,000 Federal Grant	1 year	City of North Tonawanda
30. Complete ditching and flood control projects at Gasport Elementary School	Goal 1, Objective 1.2	H	>10,000 Local Budget	3 years	Town of Royalton
31. Dredge and clean Mud Creek to control and eliminate flooding	Goal 1, Objectives 1.2 and 1.4	H	>20,000 Local Budget	3 years	Town of Lockport, Town of Royalton
32. Continue ditching along town roadways and private lands	Goal 1, Objective 1.1	H	>10,000 Local Budget	3 years	Town of Royalton
33. Complete a comprehensive emergency management plan to include standard operating procedures for the most significant hazards impacting the Town of Wheatfield	Goal 1, Objectives 1.1, 1.2	H	10,000 Federal Grant	1 year	Town of Wheatfield

Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				and Potential Funding Source		
6-7	34. Develop standard operating procedures to assist special needs populations, particularly during an epidemic or other public health emergency impacting the Town of Wheatfield	Goal 2, 2.6	MH	5,000 Federal grant	2 years	Town of Wheatfield, Niagara County Department of Emergency Services and private sector senior housing developers operating within the Town of Wheatfield
	35. Complete a Comprehensive Emergency Management Plan for the Town to include standard operating procedures for any evacuation situation including severe winter storms, power outage, and flooding	Goal 1, Objective 1.1, 1.2 and 1.4	H	10,000 Federal Grant	1 year	Town of Cambria
	36. Conduct a risk assessment for a severe snowstorm within the Town.	Goal 1, Objective 1.1	H	<5,000 Federal Grant	1 year	Town of Cambria
	37. Development of a Storm Water Management Plan	Goal 1, Objectives 1.1 and 1.2	H	5,000 Federal Grant	1 year	Town of Cambria
	38. Install an emergency generator and housing for the Town of Cambria Water Tank. Generator size to be no less than 125 kW, including a 24-hour standby tank and pre-cast concrete housing	Goal 2, Objective 2.1 and 2.3	H	120,000 Local Budget	2 years	Town of Cambria
	39. Improve security of Town Hall grounds and water storage tank by supplementing existing fencing with cameras and infra-red motion detectors	Goal 2, Objective 2.2	H	>100,000 Federal Grant	3 years	Town of Cambria
	40. Ditching throughout Town to reduce flooding	Goal 1, Objective 1.1	H	>50,000 Local Budget	5 years	Town of Pendleton

Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				and Potential Funding Source		
	41. Develop a Comprehensive Emergency Management Plan for the Town	Goal 1, Objective 1.1	H	10,000 Federal Grant	1 year	Town of Wilson
	42. Continue annual ditching program to reduce flooding within the Town	Goal 1, Objective 1.2	H	>100,000 Local Budget	Ongoing	Town of Wilson
	43. Complete a comprehensive emergency management plan for the village to include standard operating procedures for sever storms and severe winter storms including blizzards and ice storms	Goal 1, Objectives 1.1, 1.2, 1.4	H	10,000 Federal Grant	1 year	Village of Wilson
	44. Installation of backflow gates on storm sewers to prevent flooding throughout the town	Goal 1, Objectives 1.1 and 1.2	H	>10,000 Local Budget	Undetermined at this time.	Town of Niagara
8-9	45. Enhance the Emergency Operations Center within the Town Hall including but not limited to additional access to telecommunications networks, computer networks, public safety/public works communication systems and media outlet/sources	Goal 1, Objectives 1.1 and 1.2 Goal 2, Objectives 2.2, 2.3 and 2.4	H	Undetermined at this time	3 years	Town of Niagara
	46. Hardening of critical municipal infrastructure including: town municipal complex (police, courts, and general administration); Town's fresh water storage supply; Town's highway and water/sewer departments; and Town's fresh and waste water pumping stations	Goal 2, Objective 2.2	H	Undetermined at this time	3 years	Town of Niagara
	47. Obtain public safety/public works interoperability communication system that includes portable communication and paging capabilities	Goal 1, Objectives 1.1 and 1.2 Goal 2, Objectives 2.2, 2.3 and 2.4	H	Undetermined at this time	2 years	Town of Niagara
	48. Purchase of back-up generators for critical municipal infrastructure; town's community center and fire department; portable emergency lighting and intersectional traffic lights	Goal 2, Objectives 2.3	H	Undetermined at this time	3 years	Town of Niagara

Table 6-1 Mitigation Actions Identified for Implementation

Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
			and Potential Funding Source		
49. Purchase of addition personal protective equipment for first responders	Goal 1, Objectives 1.1 and 1.2 Goal 2, Objectives 2.2 and 2.3	H	Undetermined at this time.	1 year	Town of Niagara
50. CBRNE training, monitoring and detection equipment for first responders	Goal 2, Objective 2.1	H	Undetermined at this time.	1 year	Town of Niagara
51. Surveillance, monitoring and detection equipment for critical infrastructure throughout the town, including Niagara Falls International Airport, local military assets and New York Power Authority	Goal 2, Objective 2.2	H	Cost undetermined at this time. Federal Grant	3 years	Town of Niagara
52. Obtain traffic control devices that include portable traffic lights, barricades, cones and signs including a system for storage and transportation	Goal 2, Objective 2.5	H	Cost undetermined at this time. Local Budget	2 years	Town of Niagara
53. Improve pumping station at wastewater treatment plant	Goal 1, Objective 1.2 Goal 2, Objective 2.6	H	Cost undetermined at this time. Local Budget	5 years	Town of Somerset
54. Continuation of yearly ditching program to reduce flooding in the Town	Goal 1, Objective 1.2	H	20,000 Local Budget	Ongoing	Town of Somerset
55. Conduct drills of town's Emergency Action Plan	Goal 1, Objectives 1.1 and 1.2 Goal 2, Objective 2.1	H	<10,000 Federal Grant	1 year	Town of Somerset
56. Seaman Road/County Line Road Flood Mitigation Project – to redesign and reconstruct undersized drainage corridor including the replacement of several undersized culverts	Goal 1, Objective 1.2	H	164,030 Federal Grant	7 months from project initiation to maintenance stage	Town of Hartland, Highway Superintendent
57. Ditching program including mowing and cleaning throughout the Town to reduce flooding	Goal 1 Objective 1.2	H	Estimated Annual Cost is 100,000 Local Budget	Ongoing from project inception	Town of Hartland, Highway Superintendent

Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				and Potential Funding Source		
6-10	58. Acquire new excavator for ditch maintenance operations	Goal 1 Objective 1.2	H	Estimated Annual Cost is 40,000 Local Budget	Ongoing	Town of Hartland, Highway Superintendent
	59. Assess and upgrade emergency generators for critical municipal offices and facilities	Goal 2, Objective 2.3	H	Unknown prior to completion of assessment Local Budget	3 months from project inception	Town of Hartland
	60. Develop a Comprehensive Emergency Management Plan for all hazard events for the Town	Goal 1, Objectives 1.1, 1.2, 1.3 and 1.4 Goal 2, Objectives 2.1, 2.2, 2.3, 2.4, 2.5 and 2.6	H	15,000 Federal Budget	6 months from inception of planning process	Town of Hartland
	61. Identify and assess existing capabilities (and develop plan to build additional capabilities if necessary) to respond effectively to hazardous materials incidents in transit	Goal 2, Objective 2.1	H	Unknown prior to completion of assessment. Federal Grant, private funding	3 months from inception of assessment process	Town of Hartland
	62. Develop and implement a plan to inform residents and businesses throughout the Town of the steps they can take to mitigate the impacts of inevitable natural hazards such as severe storms and severe winter storms. To include dissemination of information on resources available for recovery from property damage and utility outages caused by such events.	Goal 1, Objectives 1.1, 1.2, 1.3 and 1.4	H	Unknown prior to determination of modes of outreach to be utilized. Federal grant	3 months from project inception	Town of Hartland
	63. Identify and assess existing capabilities (and develop plan to build additional capabilities if necessary) to prevent and respond effectively to transportation accidents throughout the Town.	Goal 2, Objective 2.5	H	Unknown prior to completion of assessment, Local Budget	3 months from inception of assessment process	Town of Hartland

Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				and Potential Funding Source		
11-6	64. Enhancements to the Corporation Yard on New Road. Project will include hardening of property to address security concerns, replacement of compromised fuel storage and delivery system, provided redundant power, replace outdated electrical service, install card access control and camera monitoring system, and provide for both primary and secondary communications system	Goal 2, Objective 2.2	H	3,000,000 Federal Grant	3 years	City of Niagara Falls
	65. Build capacity to respond to and recover from significant weather related events. Proposed project will include acquisition of portable lighting to support emergency operations, replace outdated and unreliable snow fighting equipment, purchase portable generators and dewatering devices, provide storage facilities, enhance communications, acquire Public Service radio frequencies, and replace outdated tree removal equipment	Goal 1, Objectives 1.1, 1.2, 1.3 and 1.4	H	4,000,000 Federal Grant	3 years	City of Niagara Falls
	66. Provide for Public Safety enhancements and Critical Infrastructure Protection. Project will include: acquire, equip, and train first responders to be able to respond to high water emergencies, provide Chemical Protective Clothing for all first responders, redundant radio capability, and traffic control hardware. In addition the project will include Phase I of hardening Critical Infrastructure to include; Public safety facilities, hospital, City Hall, drinking water distribution system, power and gas generating and distribution sites, chemical plants, transportation corridor to include rail lines (freight and passenger)	Goal 1, Objective 1.2 Goal 2, Objectives 2.1 and 2.2	H	10,000,000 Federal Grant	1 year	City of Niagara Falls, Niagara Falls Memorial Medical Center, Niagara Falls Water Board, Chemical Industry, National Grid, National Power

Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				and Potential Funding Source		
6-12	67. Alternative Emergency Operations Center (Robins Drive): This project includes those enhancements that will allow this facility to serve as an alternate to the proposed EOC (at the proposed Courthouse) as well as a base of operations for assisting agencies and staging area for resources. Project will include redundant power, security, building renovation, replace and repair fuel delivery system to include back-up power	Goal 1, Objectives 1.1, 1.2, 1.3 and 1.4 Goal 2, Objectives 2.1, 2.2, 2.3, 2.4, 2.5 and 2.6	H	2,500,000 Federal Grant	2 years	City of Niagara Falls
	68. Public Education, Notification, and Preparedness Initiative: This project includes the development of an emergency warning and notification system to the general public, emergency personnel, business partners, and other stakeholders. In includes the development of an evacuation plan, development of sheltering capability, and also the development of an alliance with the Tourist Industry to address the same	Goal 1, Objectives 1.1, 1.2, 1.3 and 1.4 Goal 2, Objectives 2.1, 2.2, 2.3, 2.4, 2.5 and 2.6	H	1,500,000 Federal Grant	2 years	City of Niagara Falls
	69. Traffic Safety Improvements to Evacuation Corridors: Project will include enhancing bridge construction and reducing vulnerability to seismic event (natural and manmade), traffic reengineering and contra flow capability	Goal 1, Objective 1.4 Goal 2, Objective 2.2	H	Undetermined at this time. Federal Grant	2 years	City of Niagara Falls
	70. Continuity of Operation and Services: Project will include the enhancement of capability of both emergency and non-emergency (but essential) services. Project will address communications, mobility, and tracking of resources	Goal 1, Objectives 1.1, 1.2, 1.3 and 1.4 Goal 2, Objectives 2.1, 2.2, 2.3, 2.4, 2.5 and 2.6	H	Undetermined at this time. Federal Grant	2 years	City of Niagara Falls

Table 6-1 Mitigation Actions Identified for Implementation

Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$ and Potential Funding Source	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
71. Increase security of Town infrastructure by installing security fencing at water tanks	Goal 2, Objective 2.2	H	Undetermined at this time. Federal Grant	1 year	Town of Porter
72. Clean all drainage ditches to mitigate against impacts from flooding	Goal 1, Objective 1.2	H	Undetermined at this time. Local Budget	Ongoing annually	Town of Porter
73. Clean 4 Mile and 12 Mile Creeks	Goal 2, Objective 2.1	MH	Undetermined at this time. Federal Grant	5 years	Town of Porter
74. Enhance continuity of government during power outages by installing an emergency generator at the Town Hall	Goal 2, Objective 2.3	H	Undetermined at this time. Federal Grant	2 years	Town of Porter
75. Enhance preparedness for all chemical hazards by purchasing appropriate personal protective equipment of first responders	Goal 2, Objective 2.1	H	Undetermined at this time. Federal Grant	1 year	Town of Porter
76. Increase security of Town infrastructure by installing security cameras at highway garages	Goal 2, Objective 2.2	H	Undetermined at this time. Federal Grant	2 years	Town of Porter
77. Purchase 100KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the two 20 horsepower motors utilized at the East Avenue sewage lift station in the event of a power failure	Goal 2 Objective 2.3	H	\$64,500 Local Budget	2 years	City of North Tonawanda
78. Purchase 100KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the two 40 horsepower motors utilized at the Ward Road sewage lift station in the event of a power failure	Goal 2 Objective 2.3	H	\$64,500 Local Budget	2 years	City of North Tonawanda

Table 6-1 Mitigation Actions Identified for Implementation

	Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$)	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
				Potential Funding Source		
6-14	79. Purchase 100KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the two 25 horsepower motors and one 20 horsepower motor utilized at the Nash Road sewage lift station in the event of a power failure	Goal 2 Objective 2.3	H	\$64,500 Local Budget	2 years	City of North Tonawanda
	80. Purchase 60KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the two 20 horsepower motors utilized at the Erie Avenue sewage lift station in the event of a power failure	Goal 2 Objective 2.3	MH	\$56,500 Local Budget	2 years	City of North Tonawanda
	81. Purchase 60KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the two 20 horsepower motors utilized at the Division Street sewage lift station in the event of a power failure	Goal 2 Objective 2.3	H	\$56,500 Local Budget	2 years	City of North Tonawanda
	82. Purchase 60KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the two 20 horsepower motors utilized at the Rumbold Avenue sewage lift station in the event of a power failure	Goal 2 Objective 2.3	H	\$56,500 Local Budget	2 years	City of North Tonawanda
	83. Purchase fuel for electrical generation equipment to operate six sewage lift stations during a power failure	Goal 2 Objective 2.3	H	\$25,200 Local Budget	1 year	City of North Tonawanda

Table 6-1 Mitigation Actions Identified for Implementation

Mitigation Activity	Goals and Objectives Supported	Priority	Estimated Budget (\$) and Potential Funding Source	Timeframe for Implementation	Agency or Jurisdiction Responsible for Implementation
84. Engineering and contingency funding for the installation of electrical generation equipment at six sewage lift stations to be utilized during a power failure	Goal 2 Objective 2.3	H	\$81,522 Local Budget	2 years	City of North Tonawanda
85. Purchase and install backup power for Tollner Tank, a component of the city's water treatment operations, in order to facilitate the production of water during a power failure and/or failure of the main pump station	Goal 2 Objective 2.3	H	\$96,000 Local Budget	2 years	City of North Tonawanda
86. Replace old, inadequate and dangerous generator used to operate the water distribution system during a power failure	Goal 2 Objective 2.3	H	\$300,000 Federal Grant	2 years	City of North Tonawanda
87. Complete a comprehensive emergency management plan to include standard operating procedures for the most significant hazards impacting the Village of Youngstown	Goal 1, Objectives 1.1, 1.2, 1.4	H	\$10,000 Federal Grant	1 year	Village of Youngstown

6. Hazard Mitigation

- An indication of the priority level assigned to that activity;
- Estimated budget for the mitigation activity (financial requirements for new funding or indication that the activity is addressed under current operating budgets);
- Potential funding sources for the mitigation activity (grant programs, current operating budgets or funding, or the agency or jurisdiction that will supply the funding; additional potential funding resources are identified in Table 2-1);
- Time estimated to implement and complete the mitigation activity; and
- Lead agency responsible for the mitigation activity

Note that the information shown in Table 6-1 represents the best estimate based on the information currently available regarding estimated cost and timeframe for implantation. Cost estimates are based on the professional knowledge of the members of the Planning Team and any information already prepared for that activity. Cost estimates will be revised as lead agencies or jurisdictions prepare to implement a specific activity. Funding sources will be clarified as each project is implemented as set out in Section 6.3 and Section 7. The traditional funding sources called out within Table 6-1 include budgeted operational funds at either the County or local level, federal grants especially those administered by the NYSEMO and originating with the US DHS, FEMA and other federal agencies, municipal bond initiatives, and, in rare cases, private funding.

Mitigation activities and projects were submitted for inclusion in the plan by participating jurisdictions and some were identified for inclusion by the Planning Team as a whole. The Planning Team reviewed all activities and projects to ensure that they supported the mitigation goals and objectives adopted by the Planning Team. Mitigation activities were evaluated and discussed at various meetings of the Planning Team and during meetings with individual participating jurisdictions to determine which projects and activities should be included in the plan and what priority should be assigned to each. The Planning Team determined that it is in the best interest of citizens, visitors and businesses Countywide to be as inclusive as possible with respect to a particular project if it would significantly reduce the County's or a community's vulnerability to a significant hazard. Only those projects that had legal or technical flaws or had prohibitive costs with no corresponding major benefit

were eliminated from inclusion in the plan. Once the activities and projects were identified they were assigned a priority level: high, moderately high or low. Priority levels are also indicated in Table 6-1. The methodology used to prioritize the projects is described further in Section 6.3 as are the planned methods for implementing the priority projects.

6.2.1 Mitigation Activities Impacting New or Planned Development

Particular attention was given to those mitigation activities that addressed the vulnerabilities of new buildings and infrastructure. Several mitigation activities that will impact the new development described above are set out in Table 6-1. These mitigation activities and the planned developments that they will impact are described in the list below:

- The development of a storm water management plan for the Town of Cambria will mitigate against flood damage at the planned HSBC Technology and Services Building.
- The enhancement of public safety capabilities with respect to high water events, accidental or intentional chemical releases and the hardening of critical infrastructure, including hospitals in the City of Niagara Falls, will protect the planned expansion at the Niagara Falls Memorial Medical Center from impacts from a breach at the nearby Robert Moses Power Dam and various types of incidents that may occur along the adjacent international border.
- The completion of a comprehensive emergency management plan for the Town of Wheatfield, which includes standard operating procedures for the most significant hazards to impact the Town, will reduce the vulnerability of the planned warehousing and manufacturing building from flooding, ice jams, severe winter storms, severe storms, hazardous materials incidents, and power failure.
- The completion of standard operating procedures for the Town of Wheatfield to assist special needs populations, particularly senior populations, during an epidemic or other public health emergency will impact the safety and security of populations living in the planned RMI Holdings Senior Housing Development.
- The enhancement of public safety capabilities with respect to high water events and other emergencies in the City of Niagara

Falls will protect two planned hotel developments from impacts from a breach at the nearby Robert Moses Power Dam and various types of incidents that may occur along the adjacent international border.

- The planned professional golf course in the Town of Lewiston will be impacted by the development of a comprehensive emergency management plan for the Town to include standard operating procedures for the most significant hazards impacting the Town.
- Two planned manufacturing facilities in the Town of Wheatfield will be impacted by the development of a comprehensive emergency management plan for the Town to include standard operating procedures for the most significant hazards impacting the Town.

6.3 Prioritization and Implementation of Mitigation Actions

Prioritization and Implementation of Mitigation Actions:

Once the identified actions and projects were prioritized, it becomes the responsibility of individual jurisdictions, in coordination with the Implementation Team, to implement and administer the projects and to ensure that a thorough cost-benefit review has been performed in order to maximize benefits from chosen actions.

The process employed to prioritize the mitigation actions identified by the Planning Team emphasized a review of costs and benefits. The following criteria were used in order to assess and summarize the benefits and costs for each identified mitigation action:

1. Will the action lessen the vulnerability of the community to a specific hazard?
 - How many people would be affected by the hazard before the action is implemented and how many would be affected after the action is implemented?
 - Will the geographic area impacted by the hazard be lessened if the action is implemented?
 - Will the number of properties impacted by the hazard be lessened if the action is implemented?
 - How much property damage would be prevented if the action is implemented and what would the corresponding cost savings be?
 - Would the number of days of loss of use of properties or physical assets be reduced if the action is implemented?

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- Would lives be saved and would injuries be prevented; if so approximately how many?
2. What are the benefits of the identified action?
- Will the action result in short- or long-term risk reduction?
 - Will the action serve to promote other community goals in addition to hazard mitigation?
 - Is the action easy to implement?
 - Is funding available to implement the action?
 - Is the action socially and/or politically acceptable?
3. What are the costs of the identified action?
- What construction costs are associated with the identified action?
 - What programming costs, including the number of people required for implementation, are associated with the identified action?
 - How long will it take to implement the identified action, what time is needed?
 - Will the action unfairly impact any specific social group?
 - Will the action engender public and/or political opposition?
 - Will the action cause any adverse effects on the environment?

In some cases specific costs for an identified action are known, however, in many instances the costs considered are estimates based on professional knowledge and Planning Team input. Revised budget estimates will be prepared as activities are moved forward for implementation.

After identifying and reviewing the benefits and costs for all of the actions using the criteria above, the actions were prioritized using the STAPLEE methodology. The STAPLEE methodology requires evaluation based upon seven criteria. These criteria are described below.

6. Hazard Mitigation

1. **Social Criteria:** This criterion requires consideration of whether there is likely to be public support or community acceptance for specific mitigation actions and overall implementation strategies.
2. **Technical Criteria:** This criterion focuses on whether a proposed action is technically feasible, will help to reduce losses in the long-term, and has minimal secondary impacts. Consideration of technical criteria provides insight into whether the action is a whole or partial solution to the problem.
3. **Administrative Criteria:** Administrative criteria include the anticipated staffing, funding, and maintenance requirements for a particular mitigation action or project.
4. **Political Criteria:** This criterion requires consideration of the likely support or opposition from current community and state political leadership for a specific mitigation action or project which may impact environmental, economic, or public safety issues.
5. **Legal Criteria:** This criterion focuses on whether the County or participating jurisdictions have the legal authority to implement the proposed mitigation activities.
6. **Economic Criteria:** The Planning Team must consider budget constraints and the cost effectiveness of a proposed action or project.
7. **Environmental Criteria:** This criterion focuses on the impact that a particular action or project will have on environmental health and sustainability.

A relative score of high, medium, or low, was made for both the costs and benefits of each action for the qualitative factors included in the STAPLEE methodology. These relative scores were then used to assign a final priority to the action.

For example, a project to purchase personal protective equipment and train local firefighters in the use of the equipment was assessed using this method with the following results (see Table 6-2).

6. Hazard Mitigation

Table 6-2 STAPLEE Methodology Example

Criteria	Action #9: Provide PPE and Training to Middleport Fire Protection Officers	
	Cost	Benefit
Social	-	H
Technical	M	H
Administrative	L	M
Political	-	M
Legal	-	-
Economic	M	H
Environmental	-	M
Final Priority	High Priority	

The final priorities for each mitigation action are displayed in Table 6-1.

The County has chartered the formation of a team to lead the implementation of the Hazard Mitigation Plan and to support and track the accomplishment of the project identified within the plan. The Implementation Team is lead by the Commissioner of the Niagara County Department of Public Works in close coordination with the Assistant Director of the Niagara County Emergency Management Office. The Implementation Team will establish a program to implement the performance based protective measures identified within the plan and lead the County in the implementation of protective measures for critical facilities. The team will support the implementation of projects and activities that will be spearheaded by individual jurisdictions as noted in the table of projects in Section 6.2.

7

Monitoring, Evaluating, and Updating the Plan

This section describes the procedures that will be undertaken by Niagara County and all participating jurisdictions to monitor, evaluate and update this Plan and to ensure continued public involvement in future planning updates. Table 7-1 provides a quick reference for the process for monitoring, evaluating and updating the Plan.

7.1 Implementing the Plan

Plan Implementation:

The Implementation Team will be responsible for ensuring that local planning mechanisms incorporate the requirements of the Plan. Additionally the Implementation Team will work to incorporate the Plan into existing comprehensive plans, capital improvement plans, zoning and building codes, site reviews, permitting, job descriptions, staff training and other planning tools where appropriate, Countywide.

The County has formed the Implementation Team to lead the implementation of the Hazard Mitigation Plan. The Implementation Team is lead by the Commissioner of the Niagara County Department of Public Works in close coordination with the Assistant Director of the Niagara County Emergency Management Office. The Implementation Team will meet on a monthly basis to establish a program to implement performance based protective measures identified within the plan and lead the County in the implementation of protective measures for critical facilities.

The Implementation Team will also coordinate with the individual participating cities, towns and villages which are responsible for the implementation of the Plan within their own jurisdictions. Implementation activities undertaken by individual jurisdictions will include the incorporation of the Plan into existing comprehensive plans, capital improvement plans, zoning and building codes, site reviews, permitting, job descriptions, staff training, and other planning tools where appropriate. Many of the projects identified in Section 6 will be managed and completed by an individual jurisdiction. These responsibilities are identified in the description of each project shown in Table 6-1.

7. Monitoring, Evaluating, and Updating the Plan

Table 7-1 Schedule of Activities to Monitor, Evaluate and Update the Plan

	Activity	Schedule for Completion
Monitoring the Plan	Assistant Director of Emergency Services collects monitoring reports from the Implementation Team and all participating jurisdictions.	Annually - March
Evaluating the Plan	The Planning Team meets to evaluate the monitoring reports and revise the plan.	Annually – April
	The Assistant Director of Emergency Services presents a result of the annual plan evaluation to the Niagara County Homeland Security Partnership Steering Committee.	Annually – May
Updating the Plan	The Planning Team develops a draft revised Plan based on the results of previous monitoring reports and annual evaluations.	Every 5 years – beginning September, 2012
	Public outreach efforts are undertaken by the Planning Team to solicit input on the draft revised Plan.	
	A final revised Plan is developed by the Planning Team incorporating public input.	

7.1.1 Incorporating the Plan into Existing Planning Mechanisms

The county and local planning mechanisms shown in Table 7-2 have been identified as potential targets for the incorporation of requirements from this Hazard Mitigation Plan. The process for incorporating the requirements of the Hazard Mitigation Plan into the existing mechanisms is also noted in the table. Note that the County does not have a comprehensive plan in place at this time however the development of such a document is now in the early stages and is being spearheaded by the Niagara County Center for Economic Development. Since a comprehensive plan does not yet exist it is not included in the table below however the Assistant Director of Emergency Services will submit this Plan to the Center for Economic Development for integration into the eventual comprehensive plan.

7. Monitoring, Evaluating, and Updating the Plan

Table 7-2 Incorporating the Plan into Existing Planning Mechanisms

	Description of Plan, Program or Procedure	Author or Participating Jurisdiction	Process for incorporating the Requirements of the Hazard Mitigation Plan.
County Plans, Programs and Procedures	Niagara County Strategic Security Plan, 2005	Niagara County Homeland Security Partnership Steering Committee	The requirements from the Hazard Mitigation Plan will be submitted to the Homeland Security Partnership by the Assistant Director of Emergency Services for consideration for inclusion in the 2007 revision to the Strategic Security Plan now underway.
	Niagara County Comprehensive Emergency Management Plan, 2004	Niagara County Emergency Services	The Director of Emergency Services will consider the requirements of the Hazard Mitigation Plan for inclusion in the 2007 revision of the CEMP now underway.
Local Plans, Programs and Procedures	Zoning Law, Chapter 210, May 2000	Village of Barker	Individual Planning Team Members, listed in Table 2-1 will be responsible for working to integrate the requirements of the Hazard Mitigation Plan into the documents authored by their jurisdictions and identified above.
	Emergency Management Operations Plan, November 2000	Village of Barker	
	Capital Improvement Plan, October 2005	Village of Barker	
	Water Supply Emergency Response Plan, December 2005	Village of Barker	
	Zoning Ordinance, August 2004	Town of Cambria	
	Local Waterfront Revitalization Program, January 2003	Village of Middleport	
	Zoning Law, Chapter 200, August 2002	Village of Middleport	
	Emergency Response Plan	Village of Middleport	
	Draft Emergency Response Plan, August 2006	Town of Lockport	

7. Monitoring, Evaluating, and Updating the Plan

Table 7-2 Incorporating the Plan into Existing Planning Mechanisms

Description of Plan, Program or Procedure		Author or Participating Jurisdiction	Process for incorporating the Requirements of the Hazard Mitigation Plan.
	Draft Comprehensive Emergency Management Plan, January 2006	Town of Niagara	
	Mitigation Goals List, September 2006	Town of Niagara	
	Zoning Ordinance, July 1989	City of North Tonawanda	
	Zoning Law, Chapter 247, December 2005	Town of Pendleton	
	Zoning Law, Chapter 205, August 2004	Town of Somerset	
	Comprehensive Plan, April 2002	Town of Somerset	
	Water Supply emergency Response Plan, December 2002	Town of Wilson	
	Zoning Chapters 127 and 130, March 2006	Town of Wilson	
	Water Supply Emergency Response Plan, June 2006	Village of Wilson	
	Zoning Chapter 170, 1994	Village of Wilson	
	Comprehensive Plan, August 1998	Town of Hartland	
	Comprehensive Plan, January 2004	Town of Wheatfield	

The Implementation Team will work with County Department heads and the County Manager to begin to integrate the newly adopted hazard mitigation goals and actions into the general operations of the County government. The Implementation Team will begin by focusing on the incorporation of the Plan into the County planning tools noted above as well as site reviews, permitting, job descriptions and staff training and will develop recommendations

7. Monitoring, Evaluating, and Updating the Plan

for submission to appropriate County Department heads and the County Manager for the integration of the Hazard Mitigation Plan into existing programs and procedures.

As stated in Table 7-2 above, the Planning Team members listed in Table 2-1 will be responsible for working to integrate the requirements of the Hazard Mitigation Plan into the documents authored by their local jurisdictions and identified above.

7.2 Monitoring the Plan

The Assistant Director of the Niagara County Emergency Management Office is responsible for monitoring implementation of the Plan. In March of each year the Assistant Director will request, collect, and process an annual report from the Implementation Team and from each of the individual jurisdictions and agencies involved in implementing the mitigation projects or activities identified in Section 6 of the Plan. These reports may be written or may be provided during telephone or face-to-face interviews. By monitoring the implementation of the Plan on an annual basis, the Assistant Director will be able to assess which projects are completed, which are no longer feasible, and what projects may require additional funding.

7.3 Evaluating the Plan

The Assistant Director of the Emergency Management Office will be responsible for coordinating the evaluation of the Plan. The evaluation of the mitigation plan is an assessment of whether the planning process and actions have been effective, if the communities' goals are being achieved, and whether changes are needed. The mitigation plan will be evaluated on an annual basis to determine the effectiveness of the programs, and to reflect changes that may affect mitigation priorities or available funding. A meeting of the Hazard Mitigation Planning Team will be convened on an annual basis in April for this purpose. Prior to the meeting, the Assistant Director will disseminate the information and reports collected during Plan monitoring activities described above to all members of the Planning Team. The evaluation will assess:

- Whether the goals and objectives currently included in the plan are still applicable and reflective of priorities for safety and security countywide;
- Whether the nature or magnitude of the identified hazards have changed;

7. Monitoring, Evaluating, and Updating the Plan

- What resources are currently available for the implementation of the plan;
- Whether implementation actions undertaken in the past year have been cost-effective;
- Whether schedules and budgets set out in the plan are realistic;
- Any implementation problems including technical, political, or legal impediments;
- Whether predicted outcomes have occurred as expected;
- Any changes in county, city, town or village resources that might impact implementation;
- Any changes in programming or government structures that might warrant changes to the plan, and
- Whether additional agencies, departments or staff should be included in the implementation of the Plan in the future.

Performance-based indicators such as project completion and resultant achievement of goals and objects will be used to review the mitigation goals, objectives, and activities. Additionally, the group will review Plan implementation efforts using performance-based indicators such as timeframes, budgets, lead and support agency commitment, resources, and feasibility. Finally, the Planning Team will evaluate how other programs and policies have conflicted, or augmented, planned, or implemented measures.

The results of the Planning Team's April meeting to evaluate the Plan will be recorded in a report which will be presented and distributed at the May meeting of the Niagara County Homeland Security Partnership Steering Committee. At this meeting the Assistant Director will present a summary of the evaluation results. This summary will be written and preserved in the minutes of the Partnership meeting. The annual reports and the summary provided at the May meeting of the Steering Committee will assist in identifying any impediments to Plan implementation and will provide data for revisions to the Plan which will be made every 5 years.

Note that although the plan will be evaluated at least annually, as described above, it will also be evaluated and revised following any major disasters to determine if the recommended mitigation strategies remain relevant.

7. Monitoring, Evaluating, and Updating the Plan

7.4 Updating the Plan

The Niagara County Emergency Management Office is responsible for maintaining and updating the Niagara County Hazard Mitigation Plan with input from the members of the Planning Team, the public and SEMO. The Niagara County Emergency Management Office, in coordination with the members of the Planning Team will monitor and evaluate the Niagara County Hazard Mitigation Plan on an annual basis as described above. Every 5 years, beginning in September 2012, the Assistant Director of Emergency Services will convene a meeting of the Planning Team in order to initiate the update and revision of the Plan. The Planning Team will utilize the annual plan evaluation reports to develop the necessary changes and revisions for the Plan. Once the plan is revised it will be distributed for public comment as described in Section 7.5 below. After all comments are addressed the plan will be revised and will be distributed to the members of the Planning Team and to the New York State Hazard Mitigation Officer.

7.5 Continued Public Involvement

During each 5-year revision of the Hazard Mitigation Plan, described in Section 7.4, the public, in addition to neighboring jurisdictions and public and private businesses and agencies throughout the County will be provided with an opportunity to review and comment on the progress made to date in the implementation of the plan and on the proposed revisions to the plan. The Assistant Director will release a progress report and a summary of the proposed revised Plan to the public, along with a comment form or other instructions for providing feed back, via the County Web site, local jurisdictions' Web sites, fliers and the media including local newspapers and newsletters. The comments received will be considered and incorporated where appropriate into the Planning Team's revisions to the plan.

A

Adopting Resolutions

Once FEMA has indicated that the approval of the Niagara County Hazard Mitigation Plan is probably, each participating jurisdiction will execute a resolution adopting the plan. The resolutions will follow the form provided below.

ADOPTION RESOLUTION SAMPLE

(Name of Jurisdiction) _____

(Governing Body) _____

(Address) _____

RESOLUTION

WHEREAS, Town A, with the assistance from Ecology & Environment, Inc., has gathered information and prepared the Niagara County Multijurisdictional Hazard Mitigation Plan; and

WHEREAS, the Niagara County Multijurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Town A is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Town A have reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Town Council that Town A adopts the Niagara County Multijurisdictional Hazard Mitigation Plan as this jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this day of Month, 2007 at the meeting of the Town Council.

(Mayor)

(Clerk)

B

Public Outreach Materials

Niagara County Multi-jurisdictional Hazard Mitigation Plan Fact Sheet

What is a Hazard Mitigation Plan and What Does it Do?

Hazard mitigation is any action taken to reduce or eliminate risks to human life and property from an emergency event such as a snow storm, flood, chemical spill or explosion. The purpose of the Niagara County Multi-jurisdictional Hazard Mitigation Plan is to reduce the cost of disasters to property owners and all levels of local government, protect critical infrastructure, reduce exposure to liability and minimize community disruption from both natural and man-made emergencies. The Plan includes a list of all emergencies, both natural and manmade, that could significantly impact one or more communities within the County. It also contains a review of all buildings, facilities and assets within the County that could be impacted by an emergency event. Most importantly, the Plan contains a list of mitigation projects and initiatives designed to reduce the impact of likely emergencies and where possible, to prevent an emergency from ever occurring in the first place.

How can you review the Hazard Mitigation Plan?

To view a copy of the draft Hazard Mitigation Plan, go to www.niagaracounty.com or *[insert information on where your jurisdiction will provide access to the plan]*.

How can you participate in the planning process?

Your input is important to us. Specifically, we are interested to know, what specific issues you feel the Plan still needs to address. What resources do you have in your neighborhood that would be helpful in preventing or responding to an emergency (i.e. volunteer groups, community food banks, shelters, etc.)? What locations of concern exist in your neighborhood that are vulnerable to a likely emergency or hazard event?

Please use the Hazard Mitigation Plan Comment Sheet to provide us with your input no later than December 31, 2006.

COMMENT SHEET

Niagara County Multi-jurisdictional Hazard Mitigation Plan

(Please print)

Name: _____

Address: _____

Phone: _____

All comments must be submitted or post-marked by December 31, 2006.

Comments may be mailed to:

OR

Submit your comments via email to:

John Cecula
Niagara County
Department of Emergency Services
5526 Niagara Street Extension, PO
Box 496
Lockport, New York 14095-0496

john.cecula@niagaracounty.com

Please be reminded this is a draft document and we need your input to make it complete.

(Please print)

1.) **Please identify specific issues you feel the Plan still needs to address:**

2.) **What resources do you have in your neighborhood that would be helpful in an emergency (i.e. volunteer groups, community food bank, shelter house, etc.):**

3.) **Please identify specific issues or locations of concern in your neighborhood:**

4.) **Other comments or suggestions:**

Please use the back of this page for any additional comments or concerns you may have.

Niagara County Multi-jurisdictional Hazard Mitigation Plan Fact Sheet

What is a Hazard Mitigation Plan and What Does it Do?

Hazard mitigation is any action taken to reduce or eliminate risks to human life and property from an emergency event such as a snow storm, flood, chemical spill or explosion. The purpose of the Niagara County Multi-jurisdictional Hazard Mitigation Plan is to reduce the cost of disasters to property owners and all levels of local government, protect critical infrastructure, reduce exposure to liability and minimize community disruption from both natural and man-made emergencies.

Why do we need a Hazard Mitigation Plan?

Niagara County has received a grant from the Federal Emergency Management Agency (FEMA) to complete a multi-jurisdictional Hazard Mitigation Plan. All cities, towns and villages within the County have been invited to guide the planning process. All local governments must have a Hazard Mitigation Plan in place in order to be eligible for FEMA pre-disaster mitigation project funds. In the event of a disaster FEMA may also withhold recovery reimbursement funding from any jurisdiction that does not have a Hazard Mitigation Plan in place.

Who will write the plan and what information will it contain?

The Niagara County Multi-jurisdictional Hazard Mitigation Plan is now being developed by the County in coordination with representatives from the:

- Village of Barker,
- Town of Cambria,
- Town of Hartland,
- Town of Lewiston,
- Town of Lockport,
- City of Lockport,
- Village of Middleport,
- Town of Newfane,
- Town of Niagara,
- City of Niagara Falls,
- City of North Tonawanda,
- Town of Pendleton,
- Town of Royalton,
- Town of Somerset,
- Town of Wheatfield,
- Town of Wilson (jointly with the Village of Wilson), and
- Village of Youngstown.

The plan will include a list of all emergencies, both natural and manmade, that could significantly impact one or more communities within the County. It will also contain a review of all buildings, facilities and assets within the County that could be impacted by an emergency event. Most importantly, the Plan will contain a list of mitigation projects and initiatives designed to reduce the impact of likely emergencies and where possible, to prevent an emergency from ever occurring in the first place.

How can you participate in the planning process?

Your input is important to us. Specifically, we are interested to know, what emergencies or disaster events you believe will have the greatest impact on your community. Also, what buildings, facilities, and community assets should be protected from these events? Finally, what projects and initiatives should be undertaken to prevent emergency events from occurring, or when prevention is not possible, how can we reduce the impact of a particular emergency on your community?

**Please use the Hazard Mitigation Plan Comment Sheet to provide us with
your input no later than October 13, 2006.**

**Niagara County Multi-jurisdictional Hazard Mitigation Plan
Comment Sheet**

Please share your experiences and concerns with us by mailing or emailing your completed Comment Sheet to:

John Cecula
Niagara County
Department of Emergency Services
5526 Niagara Street Extension, PO Box 496
Lockport, New York 14095-0496
john.cecula@niagaraCounty.com

Send in your completed Comment Sheet no later than October 13, 2006.

1. Tell us who you are (state yes or no for each):

- Are you a resident of Niagara County? _____
If yes, please tell us which City, Town or village you live in. _____
- Do you work within the County? _____
- Are you a resident of a neighboring community outside of Niagara County? _____
- Are you a local business owner or operator? _____
If yes, please tell us which business you own or operate. _____
- Do you represent a local agency or non-profit organization? _____
If yes, please tell us which agency or organization. _____
- Are you a member of the local educational or academic community? _____
If yes, please tell us which school, college or university. _____

2. What emergencies or disasters have occurred in your community in the past and what emergencies or disasters do you think are most likely to impact your community in the future?

- 3. What buildings, facilities or community assets are vulnerable to the impacts of the emergencies or disasters you have listed above?**

- 4. What projects, initiatives, or policy changes do you think should be implemented in order to prevent a particular emergency or to reduce the impacts of emergencies on your community?**

- 5. Provide any additional comments you may have below.**

Thank you for your participation!

C

Existing Plans, Policies, and Reports

C. Existing Plans, Policies, and Reports

Municipality	Title of Document	Date of Document
Niagara County	Gap Analysis Report	July 2005
Niagara County	Strategic Security Plan	July 2005
Village of Barker	Zoning Chapter 210, Village of Barker	May 2000
Village of Barker	Emergency Management Operations Plan- Quick Reference Guide	November 2000
Village of Barker	Village of Barker Hazardous Materials Emergency Response Plan	August 1991
Village of Barker	Capital Improvement Plan for the Village of Barker	October 2005
Village of Barker	Zoning Recommendations for the Village of Barker	November 1972
Village of Barker	Water Supply Emergency Response Plan – Village of Barker	December 2002 (updated 12/05)
Village of Barker	Village Of Barker Equipment List	Undated
Town of Cambria	Zoning Ordinance	August 12, 2004
Town of Cambria	Critical Infrastructure Sheet	September 13, 2006
Town of Cambria	Equipment List	September 2006
Village of Middleport	Local Waterfront Revitalization Program	January 2003
Village of Middleport	Incident Reports	9/9/2004, 3/9/2002, 2/1/2002
Village of Middleport	Fixed Asset Report	Undated
Village of Middleport	Zoning, Chapter 200	August 25, 2002
Village of Middleport	Village of Middleport- Property Data Map	January 2002
Village of Middleport	Middleport Emergency Response Plan	Undated
Town of Lockport	Town of Lockport Emergency Response Plan (DRAFT), Sections 2, 3 & 6	August 2006
Town of Lockport	Town of Lockport Zoning Map	June 2005
Town of Lockport	Town of Lockport Emergency Response Manual	January 2006
Town of Lockport	Town of Lockport- Equipment List Asset=32	December 2005
Town of Lockport	Town of Lockport- Equipment List Asset=66	December 2005
Town of Niagara	Town of Niagara Comprehensive Emergency Management Plan – Draft	2006
Town of Niagara	Rules and Regulations – Police Department	7/1/03 with subsequent updates
Town of Niagara	Critical Infrastructure List	9/2006
Town of Niagara	Equipment List	9/26/2006
Town of Niagara	Mitigation Goals List	9/26/2006

C. Existing Plans, Policies, and Reports

Municipality	Title of Document	Date of Document
City of North Tonawanda	Zoning Ordinance	Adopted December 1959, updated July 1989
City of North Tonawanda	Zoning District Map	Approved January 1980, Last revised December 1988
City of North Tonawanda	City of North Tonawanda- Equipment List- all departments	Updated September 2006
City of North Tonawanda	No Title (List of all Businesses Locating in North Tonawanda)	Undated
City of North Tonawanda	Capital Project Summary Fiscal Year 2006	June 12, 2006
Town of Pendleton	Zoning – Chapter 247	December 2005
Town of Somerset	Zoning – Chapter 205 – Town of Somerset	August 2004
Town of Somerset	Hazard Analysis Worksheet	September 2006
Town of Somerset	Town High. Dept. Vehicle Inventory Report	September 7, 2006
Town of Somerset	Town of Somerset Comprehensive Plan Zoning Classifications Map	April 2002
Town of Somerset	Town of Somerset Comprehensive Plan Digital Orthoimagery Map	February 2002
Town of Somerset	Town of Somerset Comprehensive Plan Utilities & Infrastructure Map	February 2002
Town of Somerset	Town of Somerset Comprehensive Plan Transportation Map	April 2002
Town of Somerset	Town of Somerset Comprehensive Plan Existing Landcover (1999 comprehensive Plan) Map	February 2002
Town of Somerset	Town of Somerset Comprehensive Plan Generalized Soils Map	February 2002
Town of Somerset	Town of Somerset Comprehensive Plan USGS Location Map	February 2002
Town of Somerset	Town of Somerset Comprehensive Plan Community Features Map	February 2002
Town of Somerset	Town of Somerset Comprehensive Plan Environmental Features Map	April 2002
Town of Somerset	Haz-Mat Plan	December 1991
Town of Wilson	Critical Infrastructure Sheet	September 2006
Town of Wilson	Wilson ERC	September 2006
Town of Wilson	Town of Wilson Equipment List	September 2006
Town of Wilson	Water Supply Emergency Response Plan – Town of Wilson	December 30, 2002
Town of Wilson	Zoning – Chapters 127 & 130 – Town of Wilson	March 2006

C. Existing Plans, Policies, and Reports

Municipality	Title of Document	Date of Document
Village of Wilson	Critical Infrastructure Sheet (included on Town of Wilson sheet)	September 2006
Village of Wilson	Village of Wilson Equipment List	September 2006
Village of Wilson	Water Supply Emergency response Plan	June 14, 2006
Village of Wilson	Zoning – Chapter 170	1994
City of Niagara Falls	Map of the City of Niagara Falls	January 1991
Town of Hartland	Inventory of Vehicles and Equipment	September 2005
Town of Hartland	Comprehensive Plan for the Town of Hartland	August 1998
Town of Wheatfield	Town of Wheatfield Comprehensive Plan	January 2004

D

Hazard Mitigation Profile for the Village of Barker

D. Hazard Mitigation Profile for the Village of Barker

D.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Village of Barker. The hazard mitigation projects that will directly impact the village are also included here. This Appendix does not contain all of the information contributed by the village for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the village which was considered in the development of that Plan.

D.2 Community Profile

The Village of Barker is located in the northeastern portion of Niagara County and is situated within the Town of Somerset on the southern shore of Lake Ontario. The municipality encompasses 0.4 square miles and 557 people reside within the village (U.S. Census 2000). As of the U.S. 2000 Census the village contains 211 households and 150 families, with a population density of 1,372.3 people per square mile. The median household income in the village was \$37,411, with 9.6% of the population residing below the poverty line.

The Village of Barker was incorporated in 1908. According to the 2000 U.S Census the residents of the Village work in economic sectors including manufacturing, transportation and warehousing and utility and educational, health and social services.

D.3 Vulnerability Profile

D.3.1 Most Significant Hazards Impacting the Village of Barker

The Village of Barker has identified the following hazards as posing the most significant impact to the Village. Note that additional hazards have been identified as having the potential to significantly impact the Village according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Flooding

The village's drainage system is small and old and not adequate to accommodate significant rain fall. Due to the inadequacy of the drainage system the village regularly experiences urban flooding, especially on Main Street and East Avenue. In addition to the drainage system, Golden Hill Creek is in need of dredging and stream bank restoration to prevent flooding problems. The current vegetative growth in the creek causes it to flood and may cause future flooding problems.

Severe Winter Storms

The Village of Barker has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Village.

D. Hazard Mitigation Profile for the Village of Barker

Coastal Erosion

The Village's Barker Bicentennial Park is experiencing ongoing shoreline erosion. Until mitigation activities are conducted to prevent further erosion in this area, this will continue to impact the community.

D.3.2 Critical Infrastructure within the Village of Barker

Table D-1 Critical Infrastructure Identified within the Village of Barker

Name	Address	Village	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Barker Storage LLC.	East Ave	Barker	Barker Storage LLC.	Warehouse	168,600		\$600,000
Barker Fire Company	1660 Quaker Road	Barker	Village of Barker	Recreation Hall	14,100	400	
Barker Village Police Department	8708 Main Street	Barker	Village of Barker	Office	See Village Hall		
Barker Village Hall	8708 Main Street	Barker	Village of Barker	Office	3,275		\$350,000
Barker Free Library	8708 Main Street	Barker	Village of Barker	Library	See Village Hall		
Village Garages	Woodward Ave	Barker	Village of Barker	Equipment Storage	1,800		\$56,000
Barker Highway Department	8708 Main Street	Barker	Village of Barker	Highway Garage			
Barker Central	1628 Quaker Road	Barker	Barker Central School	School	250,000	1300-1400	\$16,000,000
Ridge Road Express	1692 Quaker Rd	Barker	Grand Junction and Ridge Road Express 5355 Junction Road Lockport, NY 14094	Bus Garage	3,300		\$85,000
Barker Post Office	8720 Main Street	Barker	United States	Mail	3,600		\$185,000

Mitigation Projects Impacting the Village of Barker

The Village of Barker has identified several mitigation projects that are crucial to minimize potential hazards. The projects identified are to mitigation for flooding and erosion hazards and are listed in detail in Table D-2.

Table D-2 Mitigation Projects Identified by the Village of Barker

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Water System Improvements-Improvements to meter pits and replacement of water mains throughout the Village.	Village of Barker		\$1,757,715
Drainage System Improvements-Replacement of inadequate drainage systems throughout the Village.	Village of Barker		\$937,625
Dredging and Cleaning, Stream bank restoration of Golden Hill Creek	Village of Barker		\$62,400
Installation of shoreline erosion control measures at Barker Bicentennial Park	Village of Barker		\$85,000

D. Hazard Mitigation Profile for the Village of Barker

Table D-2 Mitigation Projects Identified by the Village of Barker

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Department of Public Works building improvements and equipment	Village of Barker		\$402,548



Hazard Mitigation Profile for the Village of Middleport

E. Hazard Mitigation Profile for the Village of Middleport

E.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Village of Middleport. The hazard mitigation projects that will directly impact the village are also included here. This Appendix does not contain all of the information contributed by the village for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the village which was considered in the development of that Plan.

E.2 Community Profile

The Village of Middleport is located in eastern Niagara County. The Village is situated within the towns of Hartland and Royalton and is bisected by the Erie Canal. The municipality encompasses 0.87 square miles and 1,917 people reside within the village (U.S. Census 2000). As of the U.S. Census 2000, the village contains 756 households and 508 families, with a population density of 2,195.9 people per square mile. The median income for a household in the village was \$36,464, with 8.3% of the population residing below the poverty line.

The Village of Middleport consists of mainly rural landscapes including a mix of residential, commercial, industrial, agricultural and open spaces land uses. The village was developed in association with the construction of the Erie Barge Canal built in 1825. Development of waterborne transport of local commerce and continuous growth in the village associated with the canal, lead to the incorporation of the village in 1859. The canal, along with the New York Central Railroad was vital in making Middleport a major trade center in the late 1800's. There are currently no industries located along the canal waterfront or Jeddo Creek. The industries along the canal water front have been replaced by private residences, farmland and a right-of-way area used for public recreation. The Village's long range goal for the community is to shift using the canal for transportation oriented activities to recreational and tourism purposes. As of the 2000 U.S. Census the majority of the residents work in economic sectors including manufacturing, education, health and social services and construction.

E.3 Vulnerability Profile

E.3.1 Most Significant Hazards Impacting the Village of Middleport

The Village of Middleport has identified the following hazards as the posing the most significant hazard for the Village. Note that additional hazards have been identified as having the potential to significantly impact the Village according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Ice Storm

The Village of Middleport has experience significant ice storm events that have caused power lines to come down and extensive property damage. This hazard is likely to occur once every several years and is likely to cause similar damage throughout the Village.

E. Hazard Mitigation Profile for the Village of Middleport

Flooding

The Village of Middleport has experienced urban flooding throughout the village due to major storms. Flooding regularly occurs on Francis Street during periods of heavy rain. The flooding on Francis Street is due to an insufficient and aging stormwater sewer system. Until the drainage system in this area is updated, this hazard is expected to continue to impact the community.

Power Failure

The Village of Middleport has experienced power outages due to severe storms including high wind events and ice storms. As these storms are expected several times a year, power outages throughout the village are expected to continue to impact the community.

Severe Winter Storms

The Village of Middleport has experienced severe winter storms annually, in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Village.

Dam Failure/Overflow

The Village of Middleport's Reservoir Dam located on Freeman and Mountain Rd. has not experienced any issues, however a potential break in the dam or overflow due to an accidental or intentional incident could potentially flood the entire Village. As long as the dam is in operation, this hazard it will continue to poses a potential risk to the community.

Hazardous Materials Incidents at Fixed Sites and In Transit

The village of Middleport hosts several industrial and chemical sites at which a hazardous materials spill could occur. These include FMC, W.H. Rhinehart, Niagara Foods, Barden Homes, Royalton-Hartland Central School, several auto and truck garages and the Middleport Wastewater Treatment Plant. Additionally, railroads run through the village as do State Routes 31, 31E and 271 and the Erie Canal. Hazardous materials are transported along all of these routes and could result in a release impacting the village. Hazardous materials spills could also occur during transportation of materials via state roads which host trucking routes throughout the village.

E.3.2 Critical Infrastructure within the Village of Middleport

Table E-1 Critical Infrastructure within the Village of Middleport

Name	Address	Village	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Tri-Town Ambulance	S. Hartland St.	Middleport	Tri-Town Ambulance	Ambulance Garage			
Middleport STP	3825 North Hartland Street	Middleport	Village of Middleport	Sewer Treatment Plant	8,804		

E. Hazard Mitigation Profile for the Village of Middleport

Table E-1 Critical Infrastructure within the Village of Middleport

Name	Address	Village	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Middleport DPW Garage	24 Main Street	Middleport	Village of Middleport	Garage	7,600		
Middleport Village Hall	24 Main Street	Middleport	Village of Middleport	Village Hall	3,300		
Royalton Hartland Middle School	1000 State Street	Middleport	Royalton-Hartland Central School	School	65,000		
Royalton Hartland High School	54 State Street	Middleport	Royalton-Hartland Central School	School	165,000		
WH Rhinehart Inc.	18 Orchard Street	Middleport	WH Rhinehart 18 Orchard St. Middleport, NY	Agricultural products distribution	28,000		
FMC Corp, Agricultural Chemical Group	100 Niagara Street	Middleport	FMC Corporation 1735 Market St. Philadelphia, PA 19103	Agricultural products	350,000		
Middleport Cold Storage Inc.	10 Kelly Avenue	Middleport	Middleport Cold Storage Inc., 10 Kelly Ave, Middleport, NY	Storage	86,000		
Middleport Post Office	42 Main Street	Middleport	United States	Post Office	4,000		
Barden-Robeson Corp.	18 Kelly Ave	Middleport	Barden-Robeson Corp.	Home Manufacturing	62,000		
Middleport ITC	89 A Telegraph Rd	Middleport	Middleport ITC	Senior Housing	18,750		
Middleport Limited housing	89 B Telegraph Rd	Middleport	Middleport Limited housing	Senior Housing	20,100		
Dunn Salvage	Route 31	Middleport	Dunn Salvage	Junk Yard			

Mitigation Projects Impacting the Village of Middleport

The Village of Middleport has identified several mitigation projects that are crucial to minimize potential hazards. The projects identified are to mitigation for flooding hazards and are listed in detail in Table E-2.

Table E-2 Mitigation Projects Identified by the Village of Middleport

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Francis Street and Kelly Avenue storm sewer improvements, including the replacement of undersized culverts with 1300 feet of new over sized drainage culverts.	Village of Middleport		\$1,000,000
Sanitary Sewer and Wastewater Treatment Plant improvements to the sewer lines associated with infiltration and inflow.	Village of Middleport		\$2,600,000

E. Hazard Mitigation Profile for the Village of Middleport

Table E-2 Mitigation Projects Identified by the Village of Middleport

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Repair dam structure and dredge nearby streams to alleviate possible damage in the event of a dam failure	Village of Middleport		
Purchase personal protective equipment and train Village employees and volunteer firefighters in the use of the equipment	Village of Middleport		Equipment: \$607,284 Training: \$380,000



Hazard Mitigation Profile for the Town of Lockport

F. Hazard Mitigation Profile for the Town of Lockport

F.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Lockport. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

F.2 Community Profile

The Town of Lockport is located in the south central portion of Niagara County and surrounds the City of Lockport. The town's southern boarder is formed by the Tonawanda Creek and the town is bisected by the Erie Canal. The town is boarded by the Town of Royalton to the east, Town of Newfane to the north, the towns of Cambria and Pendleton to the west, and the Town of Clarence in Erie County to the south. As of the 2000 U.S. Census 19,653 people reside within the town. The town's total area is 44.7 square miles, with a population density of 440.3 people per square mile. There are 7,537 households, and 5,253 families residing in the town. The median income for a household in the town was \$45,977, with 7.7% of the population residing below the poverty line.

The town of Lockport consists of nine smaller communities:

- **Carlisle Gardens** – A community bordering the east side of the City of Lockport.
- **Highland Park** – A location north of the City of Lockport, next to the fair grounds.
- **Nottingham Estates** – A location east if the City of Lockport, and north of Route 31.
- **Rapids** – A hamlet on the south border of the town.
- **Raymond** – A location northwest of Rapids.
- **Ridge Lea** – A location north of the City of Lockport.
- **Shooktown** – A location east of the City of Lockport.
- **South Lockport** – A community bordering the south side of the City of Lockport.
- **Wrights Corners** – A hamlet on the north town line, partly in the Town of Newfane

F. Hazard Mitigation Profile for the Town of Lockport

The Town of Lockport was established in 1824, the same year the canal was completed up to the City of Lockport. As the area continued to grow, the village of Lockport was incorporated in 1829, which eventually became the City of Lockport in 1865. The town's growth was due to industries including, flour and cotton mills and copper shops that used the canal. According to the 2000 U.S. Census in the majority of residents within the Town of Lockport work in retail trade, food services and health care.

F.3 Vulnerability Profile

F.3.1 Most Significant Hazards Impacting the Town of Lockport

The Town of Lockport has identified the following hazards as posing potential significant impacts to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Flooding

The Town of Lockport has experienced flooding on Donner Creek. The Creek is in need of dredging and vegetation clearing to reduce the flooding hazard. Until these mitigation activities are conducted, flooding on this creek is expected to continue and impact the community.

Severe Winter Storms

The Town of Lockport has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

Ice Storm:

The Town of Lockport has experience significant ice storm events that have caused power lines to come down and extensive property damage. This is an event that is likely to occur once every several years, causing similar damage throughout the Town.

HazMat Fixed Site and In-Transit

The Town of Lockport has critical infrastructure than includes chemical manufacturing industries. If an accident occurs at any of these chemical manufacturing plants, there is a potential for mass casualties and property damage throughout the town. These chemical manufacturing plants also ship of the hazardous materials to and from the plant through the town. There have been several HazMat incidents occurring in the town and there is a potential for these incidents to occur in the future.

Terrorism

The Town of Lockport has critical infrastructure than includes chemical manufacturing industries that could be targets of terrorism. Several of the chemical manufacturing plants located in the city have been identified by the town as having a

F. Hazard Mitigation Profile for the Town of Lockport

potential for mass casualties and property damage if a terrorist event occurs on site. Terrorism is also a concern along the Erie Canal.

F.3.2 Critical Infrastructure within the Town of Lockport

Table F-1 Critical Infrastructure within the Town of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Lockport City Water Treatment Facility	220 Summit Street	Lockport	City of Lockport	Water Treatment			
Lockport City Finished Water Storage Tank	Outwater Park	Lockport	City of Lockport	Water Storage			
Lockport Waste Water Treatment Plant	611 West Jackson Street	Lockport	City of Lockport	Water Treatment			
Lockport Memorial Hospital	521 East Avenue	Lockport	Public	Hospital			
City of Lockport Fire Department	Municipal Building	Lockport	City of Lockport	Fire Department			
Niagara County Sheriff's Department	5526 Niagara Street Exchange	Lockport	Niagara County	Police			
Lockport City Police Department	One Locks Plaza	Lockport	City of Lockport	Police			
Niagara County Jail	5526 Niagara Street Exchange	Lockport	Niagara County	Jail			
Niagara County Courthouse	175 Hawley Street	Lockport	Niagara County	Courthouse			
Philo J. Brooks County Office Building	59 Park Avenue	Lockport	Niagara County	Offices			
County Building	111 Main Street	Lockport	Niagara County	Offices			
Cooperative Extension Service	4487 Lake Avenue	Lockport	Niagara County	Offices			
Credit Union	260 West Avenue	Lockport	Niagara County	Offices			
Civil Defense Building	139 Niagara Street	Lockport	Niagara County	Offices			
Parks Department	314 Davison Road	Lockport	Niagara County	Offices			
Social Services	22 East Avenue	Lockport	Niagara County	Offices			
Lockport Municipal Building	One Locks Plaza	Lockport	City of Lockport	Offices			
Anna Merritt Elementary School	389 Green Street	Lockport	Public Schools	School			
Charles A. Upson Elementary School	28 Harding Avenue	Lockport	Public Schools	School			
Charlotte Cross Early Childhood Center	319 West Avenue	Lockport	Public Schools	School			
Dewitt Clinton Elementary School	85 North Adam Street	Lockport	Public Schools	School			
Emmet Belknap Middle School	491 High Street	Lockport	Public Schools	School			

F. Hazard Mitigation Profile for the Town of Lockport

Table F-1 Critical Infrastructure within the Town of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
George M. Southard Elementary School	6385 Locust Street	Lockport	Public Schools	School			
John E. Pound Elementary School	51 High Street	Lockport	Public Schools	School			
Lockport High School	250 Lincoln Avenue	Lockport	Public Schools	School			
North Park Middle School	160 Passaic Avenue	Lockport	Public Schools	School			
Roy B. Kelley Elementary School	610 East High Street	Lockport	Public Schools	School			
Washington Hunt Elementary School	50 Rogers Road	Lockport	Public Schools	School			
New York State Armory	158 Willow Street	Lockport	New York State	Defense			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
Pinnacle Towers Inc.		Lockport	Global Signal Inc. 301 North Cattlemen Road Sarasota, FL 34232	Communication Towers			
Parnassos L.P., Debtor-in-Possession		Lockport	Parnassos L.P., Debtor-in-Possession				
Sprint Spectrum, LP		Lockport	Sprint Spectrum, LP 6200 Sprint Parkway Overland Park, KS 66251	Communication Towers			
Upstate Cellular Network		Lockport	Verizon New York Inc. 1095 Avenue of the Americas New York, NY 10036	Communication Towers			

F. Hazard Mitigation Profile for the Town of Lockport

Table F-1 Critical Infrastructure within the Town of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Niagara Mohawk Power Corp.	Hinman Road	Lockport	National Grid 300 Erie Boulevard West Syracuse, NY 13202-4250	Offices			
NYS Electric & Gas Corp.	6544 Lincoln Avenue	Lockport	Energy East Corporation P O Box 12904 Albany NY 12212-2904	Offices			
Falls Road Railroad	Park Avenue	Lockport	Genesee Valley Transportation	Railroad			
Somerset Railroad	Niagara Street	Lockport	Somerset Railroad	Railroad			
Allvac	695 Ohio Street	Lockport	Niagara County IDA C/O Alleghany Ludlum STL 175 Hawley St. Lockport NY - 14094	Manufacturing			
NYS Canal Corp.	4 Mill Street	Lockport	NYS Canal Corporation 4 Mill St. Lockport, NY	Offices			
Delphi Harrison Thermal Systems	200 Upper Mountain Road	Lockport	Delphi Corporation 5725 Delphi Drive Troy, Michigan 48098-2815	Manufacturing			
Isochem	1 North Transit Road	Lockport	Isochem North America LLC. 101 College Road East 3rd Floor Princeton NJ 08540	Chemical Manufacturing			
Candlelight Cabinetry Inc.	Park Avenue	Lockport	Candlelight Cabinetry Inc. 24 Michigan St. Lockport, NY	Manufacturing			
Jamestown Container Division	85 Grand Street	Lockport	Jamestown Container Companies 85 Grand Street, Lockport, NY 14094	Manufacturing			

F. Hazard Mitigation Profile for the Town of Lockport

Table F-1 Critical Infrastructure within the Town of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
JH Products Inc.	520 Mill Street	Lockport	JH Products Inc. 6824 Mt. Vernon Ave. Cincinnati, Ohio 45227	Manufacturing			
LaFarge Quarry	400 Hinman Road	Lockport	LaFarge North America LLC. 12950 Worldgate Drive Suite 500 US-Herndon, VA 20170	Building Material Manufacturing			
Milward Alloys Inc.	500 Mill Street	Lockport	Niagara County IDA C/O Milward Alloys Inc. 500 Mill Street Lockport, NY 14094-1712	Manufacturing			
Vanchlor Inc.	515 West Jackson Street	Lockport	Vanchlor Inc. 45 Main St. Lockport, NY 14094	Chemical Manufacturing			
Thrifty Propane and Oil	63 Richfield Street	Lockport	Thrifty Propane and Oil 63 Richfield Street Lockport, NY 14094	Propane and Oil Distribution			
Reid Petroleum	100 West Genesee Street	Lockport	Reid Petroleum Corp. 100 West Genesee St. Lockport, NY	Petroleum Distribution			
M-R-S Plating Inc.	310 Park Avenue	Lockport	Jagiello Marion 310 Park Ave. Lockport, NY	Manufacturing			
Twin Lake Chemical Inc.	520 Mill Street	Lockport	Twin Lake Chemical Inc. 520 Mill St. Lockport, NY	Chemical Manufacturing			
Sherwood Division of Harsco	120 Church Street	Lockport	Harsco Corporation 350 Poplar Church Road Camp Hill, PA 17011 U.S.A.	Manufacturing			
Lockport Post Office	138 East Ave.	Lockport	United States	Post Office			

F. Hazard Mitigation Profile for the Town of Lockport

Mitigation Projects Impacting the Town of Lockport

The Town of Lockport has identified several mitigation projects to reduce hazards within the Town. These projects are meant to reduce hazards for power outages, flooding and terrorism. Detailed information about each mitigation project is described in Table F-2 below.

Table F-2 Mitigation Projects Identified by the Town of Lockport

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Purchase of Emergency Generators for town buildings including the Town Hall, Town Highway Garage, Town Water and Sewer Building and Town Court Building.	Town of Lockport		\$165,000
Construction of Berm/Barriers around Town Hall/Town Highway Garage to deter potential attack.	Town of Lockport		\$50,000
Cleaning/Dredging Donner Creek from Transit Road to Lincoln Avenue	Town of Lockport		\$75,000
Installation of a Detention Pond for Donner Creek	Town of Lockport		\$50,000
Gradall Excavator- For ditch maintenance	Town of Lockport		\$50,000
Purchase of Preparedness and Response equipment for all hazards	Town of Lockport		\$295,000



Hazard Mitigation Profile for the City of Lockport

G. Hazard Mitigation Profile for the City of Lockport

G.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the City of Lockport. The hazard mitigation projects that will directly impact the city are also included here. This Appendix does not contain all of the information contributed by the city for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the city which was considered in the development of that Plan.

G.2 Community Profile

The City of Lockport is located in central Niagara County and is situated within the Town of Lockport. The City of Lockport is Niagara County's administrative center. The Erie Canal passes through the center of the city, where it climbs the Niagara Escarpment through a series of two locks. According to the 2000 U.S. Census the population is 22,279, and 9,459 households and 5,609 families reside within the city. The City's total area is 8.6 square miles, with a population density of 2,612.4 people per square mile. The median income for a household in the city is \$35,222, with 13.3% of the population residing below the poverty line.

The City of Lockport became a village in 1829, four years after the completion of the Erie Canal. After a period of industry growth that included flour and cotton mills, copper shops, the Hydraulic Power Company who produced energy from the canal waters, and Race, Mathews and Co. who produced fire engines, the City of Lockport was incorporated in 1865. The city of Lockport became the first city to be incorporated in Niagara County. According to the 2000 U.S. Census the majority of residents of the City of Lockport work in manufacturing, health care, retail trade and food service sectors.

G.3 Vulnerability Profile

G.3.1 Most Significant Hazards Impacting the City of Lockport

The City of Lockport has identified the following hazards as posing the most significant impact to the City. Note that additional hazards have been identified as having the potential to significantly impact the City according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Terrorism

The City of Lockport has critical infrastructure that includes chemical manufacturing industries that could be targets of terrorism. Several of the chemical manufacturing plants located in the city have been identified by the City as having a potential for mass casualties and property damage if a terrorist event occurs on site.

HazMat Fixed Site and In-Transit

The City of Lockport has critical infrastructure that includes chemical manufacturing industries. If an accident occurs at any of these chemical manufacturing

G. Hazard Mitigation Profile for the City of Lockport

plants, there is a potential for mass casualties and property damage throughout the City. These chemical manufacturing plants also ship of the hazardous materials to and from the plant through the city. There have been several HazMat incidents occurring in the city and there is a potential for these incidents to occur in the future.

Severe Winter Storms

The City of Lockport has experienced severe winter storms annually; in rarer incidences these storms have included blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the City.

G.3.2 Critical Infrastructure within the City of Lockport

Table G-1 Critical Infrastructure within the City of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Lockport City Water Treatment Facility	220 Summit Street	Lockport	City of Lockport	Water Treatment			
Lockport City Finished Water Storage Tank	Outwater Park	Lockport	City of Lockport	Water Storage			
Lockport Waste Water Treatment Plant	611 West Jackson Street	Lockport	City of Lockport	Water Treatment			
Lockport Memorial Hospital	521 East Avenue	Lockport	Public	Hospital			
City of Lockport Fire Department	Municipal Building	Lockport	City of Lockport	Fire Department			
Niagara County Sheriff's Department	5526 Niagara Street Exchange	Lockport	Niagara County	Police			
Lockport City Police Department	One Locks Plaza	Lockport	City of Lockport	Police			
Niagara County Jail	5526 Niagara Street Exchange	Lockport	Niagara County	Jail			
Niagara County Courthouse	175 Hawley Street	Lockport	Niagara County	Courthouse			
Philo J. Brooks County Office Building	59 Park Avenue	Lockport	Niagara County	Offices			
County Building	111 Main Street	Lockport	Niagara County	Offices			
Cooperative Extension Service	4487 Lake Avenue	Lockport	Niagara County	Offices			
Credit Union	260 West Avenue	Lockport	Niagara County	Offices			
Civil Defense Building	139 Niagara Street	Lockport	Niagara County	Offices			
Parks Department	314 Davison Road	Lockport	Niagara County	Offices			
Social Services	22 East Avenue	Lockport	Niagara County	Offices			
Lockport Municipal Building	One Locks Plaza	Lockport	City of Lockport	Offices			

G. Hazard Mitigation Profile for the City of Lockport

Table G-1 Critical Infrastructure within the City of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Anna Merritt Elementary School	389 Green Street	Lockport	Public Schools	School			
Charles A. Upson Elementary School	28 Harding Avenue	Lockport	Public Schools	School			
Charlotte Cross Early Childhood Center	319 West Avenue	Lockport	Public Schools	School			
Dewitt Clinton Elementary School	85 North Adam Street	Lockport	Public Schools	School			
Emmet Belknap Middle School	491 High Street	Lockport	Public Schools	School			
George M. Southard Elementary School	6385 Locust Street	Lockport	Public Schools	School			
John E. Pound Elementary School	51 High Street	Lockport	Public Schools	School			
Lockport High School	250 Lincoln Avenue	Lockport	Public Schools	School			
North Park Middle School	160 Passaic Avenue	Lockport	Public Schools	School			
Roy B. Kelley Elementary School	610 East High Street	Lockport	Public Schools	School			
Washington Hunt Elementary School	50 Rogers Road	Lockport	Public Schools	School			
New York State Armory	158 Willow Street	Lockport	New York State	Defense			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
SBC Tower Holdings LLC		Lockport	SBC Tower Holdings LLC	Communication Towers			
Pinnacle Towers Inc.		Lockport	Global Signal Inc. 301 North Cattlemen Road Sarasota, FL 34232	Communication Towers			
Parnassos L.P., Debtor-in-Possession		Lockport	Parnassos L.P., Debtor-in-Possession				

G. Hazard Mitigation Profile for the City of Lockport

Table G-1 Critical Infrastructure within the City of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Sprint Spectrum, LP		Lockport	Sprint Spectrum, LP 6200 Sprint Parkway Overland Park, KS 66251	Communication Towers			
Upstate Cellular Network		Lockport	Verizon New York Inc. 1095 Avenue of the Americas New York, NY 10036	Communication Towers			
Niagara Mohawk Power Corp.	Hinman Road	Lockport	National Grid 300 Erie Boulevard West Syracuse, NY 13202-4250	Offices			
NYS Electric & Gas Corp.	6544 Lincoln Avenue	Lockport	Energy East Corporation P O Box 12904 Albany NY 12212-2904	Offices			
Falls Road Railroad	Park Avenue	Lockport	Genesee Valley Transportation	Railroad			
Somerset Railroad	Niagara Street	Lockport	Somerset Railroad	Railroad			
Allvac	695 Ohio Street	Lockport	Niagara County IDA C/O Alleghany Ludlum STL 175 Hawley St. Lockport NY - 14094	Manufacturing			
NYS Canal Corp.	4 Mill Street	Lockport	NYS Canal Corporation 4 Mill St. Lockport, NY	Offices			
Delphi Harrison Thermal Systems	200 Upper Mountain Road	Lockport	Delphi Corporation 5725 Delphi Drive Troy, Michigan 48098-2815	Manufacturing			
Isochem	1 North Transit Road	Lockport	Isochem North America LLC. 101 College Road East 3rd Floor Princeton NJ 08540	Chemical Manufacturing			

G. Hazard Mitigation Profile for the City of Lockport

Table G-1 Critical Infrastructure within the City of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Candlelight Cabinetry Inc.	Park Avenue	Lockport	Candlelight Cabinetry Inc. 24 Michigan St. Lockport, NY	Manufacturing			
Jamestown Container Division	85 Grand Street	Lockport	Jamestown Container Companies 85 Grand Street, Lockport, NY 14094	Manufacturing			
JH Products Inc.	520 Mill Street	Lockport	JH Products Inc. 6824 Mt. Vernon Ave. Cincinnati, Ohio 45227	Manufacturing			
LaFarge Quarry	400 Hinman Road	Lockport	LaFarge North America LLC. 12950 Worldgate Drive Suite 500 US-Herndon, VA 20170	Building Material Manufacturing			
Milward Alloys Inc.	500 Mill Street	Lockport	Niagara County IDA C/O Milward Alloys Inc. 500 Mill Street Lockport, NY 14094-1712	Manufacturing			
Vanchlor Inc.	515 West Jackson Street	Lockport	Vanchlor Inc. 45 Main St. Lockport, NY 14094	Chemical Manufacturing			
Thrifty Propane and Oil	63 Richfield Street	Lockport	Thrifty Propane and Oil 63 Richfield Street Lockport, NY 14094	Propane and Oil Distribution			
Reid Petroleum	100 West Genesee Street	Lockport	Reid Petroleum Corp. 100 West Genesee St. Lockport, NY	Petroleum Distribution			
M-R-S Plating Inc.	310 Park Avenue	Lockport	Jagiolo Marion 310 Park Ave. Lockport, NY	Manufacturing			
Twin Lake Chemical Inc.	520 Mill Street	Lockport	Twin Lake Chemical Inc. 520 Mill St. Lockport, NY	Chemical Manufacturing			

G. Hazard Mitigation Profile for the City of Lockport

Table G-1 Critical Infrastructure within the City of Lockport

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Sherwood Division of Harsco	120 Church Street	Lockport	Harsco Corporation 350 Poplar Church Road Camp Hill, PA 17011 U.S.A.	Manufacturing			
Lockport Post Office	138 East Ave.	Lockport	United States	Post Office			

G.4 Mitigation Projects Impacting the City of Lockport

The City of Lockport has identified several mitigation projects to reduce hazards in the City. These projects are meant to increase emergency preparedness and update the water treatment facility within the City. Detailed information about each mitigation project is described in Table G-2.

Table G-2 Mitigation Projects Identified by the City of Lockport

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Emergency Back-up Power to Water Filtration Plant- Including cost for the generator, proper installation of the foundation for generator, the transfer switches needed to supply power to the plant and the proper fuel storage to keep the unit running for a protracted period.	City of Lockport		\$750,000
Hardening of City Hall- Including increased protection of HVAC system and addition protection of the wall of outside communications.	City of Lockport		\$2,600,000



Hazard Mitigation Profile for the City of North Tonawanda

H. Hazard Mitigation Profile for the City of North Tonawanda

H.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the City of North Tonawanda. The hazard mitigation projects that will directly impact the city are also included here. This Appendix does not contain all of the information contributed by the city for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the city which was considered in the development of that Plan.

H.2 Community Profile

The City of North Tonawanda is located in southern Niagara County. The City's southern and eastern boarder is the City and Town of Tonawanda, in Erie County. The Tonawanda Creek is the boundary between the City of North Tonawanda and Erie County. The Niagara River makes the City's western boarder and to its north is the Town of Wheatfield. According to the 2000 U.S. Census the City North Tonawanda has a population of 33,262 13,671 households, and 8,981 families residing in the city. The population density of the city is 3,293 people per square mile. The median income for a household in the city is \$39,154, with 7.2% of the population living below the poverty line.

The City of North Tonawanda was incorporated in 1897. North Tonawanda's industrial development began when the Erie Canal was completed in 1825. Due to logging in Michigan forests, North Tonawanda became the lumber capital of the world. As lumber supplies were diminishing, new industries of steel, paper, chemicals and carousel manufacturing moved in to the city. The City of North Tonawanda has transitioned from an industrial town to focusing on the growth of its commercial base with historic and cultural tourism.

H.3 Vulnerability Profile

H.3.1 Most Significant Hazards Impacting the City of North Tonawanda

The City of North Tonawanda has identified the following hazard as posing the most significant impact to the City. Note that additional hazards have been identified as having the potential to significantly impact the City according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Severe Storms

The City of North Tonawanda is subject to several severe storms annually, which cause power outages, property damage and even injuries. These storms are common throughout the area and are expected to continue to impact the City.

Severe Winter Storms

The City of North Tonawanda has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

H. Hazard Mitigation Profile for the City of North Tonawanda

Flooding

The City of North Tonawanda has experienced urban flooding throughout the City due to major storms. Flooding in the City is due to an insufficient and aging stormwater sewer system. Until the drainage system is updated, this is a hazard that is expected to continue to impact the City.

Power Failure

The City of North Tonawanda has experienced power outages due to severe storms including high wind events and ice storms. As these storms are expected several times a year, power outages throughout the City will continue to impact the City.

Terrorism

The City of North Tonawanda has critical infrastructure that includes chemical manufacturing industries that could be targets of terrorism. Several of the chemical manufacturing has been identified by the City as having a potential for mass casualties and property damage if a terrorist event occurs on site.

H.3.2 Critical Infrastructure within the City of North Tonawanda

Table H-1 Critical Infrastructure within the City of North Tonawanda

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
North Tonawanda Catholic School	75 Keil Street	North Tonawanda		School			
St. Mark Lutheran School	1135 Oliver Street	North Tonawanda		School			
St. Matthew Lutheran School	875 Eggert Drive	North Tonawanda		School			
St. Paul Lutheran School	453 Old Falls Blvd	North Tonawanda		School			
Power Generating Plant	1070 Erie Ave	North Tonawanda	Fortistar One North Lexington Ave. White Plains, NY	Power Plant			
High Transmission Switching Station	435 Robinson St.	North Tonawanda	National Grid 300 Erie Boulevard West Syracuse, NY 13202-4250	Power Station			
Nextel of New York, Inc.		North Tonawanda	Nextel Communications Inc. 2001 Edmund Halley Drive Reston, VA 20191	Communication Tower			

H. Hazard Mitigation Profile for the City of North Tonawanda

Table H-1 Critical Infrastructure within the City of North Tonawanda

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Verizon (Switching Station)	95 Tremont	North Tonawanda	Verizon Inc.	Communication			
An-Cor Industrial Plastics	100 Melody Lane	North Tonawanda	An-Cor Industrial Plastics Inc. 100 Melody Lane N. Tonawanda, NY	Manufacturing			
Durez Development Center	673 Walck Road	North Tonawanda	Occidental Chemical Corp. Occidental Tower 5005 LBJ Freeway Dallas, Texas 75244	Chemical Manufacturing			
International Fiber Corp.	50 Bridge Street	North Tonawanda	International Filler Corp. 50 Bridge Street North Tonawanda, NY	Manufacturing			
Buffalo Pumps, Inc.	874 Oliver Street	North Tonawanda	Howden Buffalo Inc. 2029 West DeKalb Street, Camden, SC 29020	Manufacturing			
Superior Lubricants Co. Inc.	137 Ward Road	North Tonawanda	Superior Lubricants Co., Inc. 32 Ward Road N. Tonawanda, NY 14120	Manufacturing			
Val-Kro Inc.	369 River Road	North Tonawanda	Val-Kro Inc. 369 River Road Buffalo, NY 14120	Manufacturing			
Recreational Dist. Warehouse	555 River Road	North Tonawanda	United Refining Inc. 2781 Townline RD Alden, NY 14004	Warehouse			

H. Hazard Mitigation Profile for the City of North Tonawanda

Table H-1 Critical Infrastructure within the City of North Tonawanda

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Riverside Chemical Co.	871-947 River Road	North Tonawanda	Riverside Chemical Inc. P.O. BOX 197 871-947 River Road North Tonawanda, NY 14120-0197	Chemical Manufacturing			
Lockport City Raw Water Pump Station	512 River Road	North Tonawanda	City of Lockport	Water Pump Station			
North Tonawanda Water Treatment Facility	1 Archer Street	Tonawanda Island	City of North Tonawanda	Water Treatment			
North Tonawanda Finished Water Storage	Erie Avenue	North Tonawanda	City of North Tonawanda	Water storage			
North Tonawanda Finished Water Storage	Toellner Avenue	North Tonawanda	City of North Tonawanda	Water Storage			
North Tonawanda Raw Water Pump Station	1 Archer Street	Tonawanda Island	City of North Tonawanda	Water Pumping Station			
North Tonawanda Raw Water Intake	East Branch Niagara River	North Tonawanda	City of North Tonawanda	Water Intake			
North Tonawanda Waste Water Treatment Plant	830 River Road	North Tonawanda	City of North Tonawanda	Water Treatment			
DeGraff Memorial Hospital, Skilled Nursing Home	445 Tremont Street	North Tonawanda	DeGraff Memorial	Hospital			
DeGraff Memorial Hospital	4465 Tremont Street	North Tonawanda	DeGraff Memorial	Hospital			
North Tonawanda Fire Department	495 Zimmerman Road	North Tonawanda	City of North Tonawanda	Fire Department			
North Tonawanda Fire Headquarters and EOC	495 Zimmerman Road Latitude	North Tonawanda	City of North Tonawanda	Emergency Operations Center			
North Tonawanda City Police	216 Payne Avenue	North Tonawanda	City of North Tonawanda	Police			
Norman Keller Building	500 Wheatfield Street	North Tonawanda	City of North Tonawanda	Office			
North Tonawanda City Hall	216 Payne Avenue	North Tonawanda	City of North Tonawanda	Office			
Drake Elementary School	380 Drake Drive	North Tonawanda	North Tonawanda City School	School			
Gilmore Elementary School	789 Gilmore Avenue	North Tonawanda	North Tonawanda City School	School			

H. Hazard Mitigation Profile for the City of North Tonawanda

Table H-1 Critical Infrastructure within the City of North Tonawanda

Name	Address	City	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Grant Elementary School	Grant Street	North Tonawanda	North Tonawanda City School	School			
Meadow Elementary School	455 Meadow Drive	North Tonawanda	North Tonawanda City School	School			
Ohio Elementary School	625 Ohio Avenue	North Tonawanda	North Tonawanda City School	School			
Dr. Thaddeus F Reszel Middle School	1500 Vanderbilt Avenue	North Tonawanda	North Tonawanda City School	School			
Senior High School	405 Meadow Drive	North Tonawanda	North Tonawanda City School	School			
Spruce Elementary School	195 Spruce Avenue	North Tonawanda	North Tonawanda City School	School			
North Tonawanda City Public Works Department	758 Erie Ave.	North Tonawanda	City of North Tonawanda	Highway Garages			
North Tonawanda Post Office	Gundry and Oliver St.	North Tonawanda	United States	Post Office			

Mitigation Projects Impacting the City of North Tonawanda

The City of North Tonawanda has identified several mitigation projects to be completed. These projects are designed to reduce the flooding hazards within the City. These projects are described in detail in Table H-2

Table H-2 Mitigation Projects for the City of North Tonawanda

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Northwest Storm Sewer, Phase II	City of North Tonawanda	End of FY2007	\$2,888,000
Ward Road Storm Sewer Project	City of North Tonawanda	FY2007-2008	\$1,020,800
Meadow Drive Extension	City of North Tonawanda	FY2007-20089	\$2,000,000
Frederick B. Durkee Memorial Bridge Rehabilitation Project	City of North Tonawanda	FY2009-2010	\$1,500,000
City Incinerator Site Investigation and Remedial Alternatives Report	City of North Tonawanda	End of FY 2007	\$75,000
Gateway Point Park Remediation and Development	City of North Tonawanda	End of FY 2007	\$296,016
Sweeney-Roberts Storm Drain	City of North Tonawanda	End of FY 2007	\$27,500

H. Hazard Mitigation Profile for the City of North Tonawanda

Table H-2 Mitigation Projects for the City of North Tonawanda

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Installation of Total Building Emergency Generating Systems for four City Fire Stations	City of North Tonawanda	End of FY 2007	\$12,500
Installation of a Total Building Emergency Generating System at the Norman Keller Building, 500 Wheatfield Street	City of North Tonawanda	End of FY 2007	\$6,600
Installation of Total Building Emergency Generating System at City Hall, Police Headquarters, 216 Payne Avenue	City of North Tonawanda	End of FY 2007	\$10,000
Purchase 100KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the 2 twenty horsepower motors utilized at the East Avenue sewage lift station in the event of a power failure.	City of North Tonawanda	Undetermined at this time.	\$64,500
Purchase 100KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the 2 forty horsepower motors utilized at the Ward Road sewage lift station in the event of a power failure.	City of North Tonawanda	Undetermined at this time.	\$64,500
Purchase 100KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the 2 twenty-five horsepower motors and 1 twenty horsepower motor utilized at the Nash Road sewage lift station in the event of a power failure.	City of North Tonawanda	Undetermined at this time.	\$64,500
Purchase 60KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the 2 twenty horsepower motors utilized at the Erie Avenue sewage lift station in the event of a power failure.	City of North Tonawanda	Undetermined at this time.	\$56,500
Purchase 60KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the 2 twenty horsepower motors utilized at the Division Street sewage lift station in the event of a power failure.	City of North Tonawanda	Undetermined at this time.	\$56,500

H. Hazard Mitigation Profile for the City of North Tonawanda

Table H-2 Mitigation Projects for the City of North Tonawanda

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Purchase 60KVA generator with natural gas fuel, exterior weatherproof sound dampened enclosures, automatic transfer switch, exercise and alarm capabilities to operate the 2 twenty horsepower motors utilized at the Rumbold Avenue sewage lift station in the event of a power failure.	City of North Tonawanda	Undetermined at this time.	\$56,500
Purchase fuel for electrical generation equipment to operate 6 sewage lift stations during a power failure.	City of North Tonawanda	Undetermined at this time.	\$25,200
Engineering and contingency funding for the installation of electrical generation equipment at 6 sewage lift stations to be utilized during a power failure.	City of North Tonawanda	Undetermined at this time.	\$81,522
Purchase and install backup power for Tollner Tank, a component of the City's water treatment operations, in order to facilitate the production of water during a power failure and/or failure of the main pump station.	City of North Tonawanda	Undetermined at this time.	\$96,000
Replace old, inadequate and dangerous generator used to operate the water distribution system during a power failure.	City of North Tonawanda	Undetermined at this time.	\$300,000



Hazard Mitigation Profile for the Town of Royalton

I. Hazard Mitigation Profile for the Town of Royalton

I.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Royalton. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

I.2 Community Profile

The Town of Royalton is located in the southeastern corner of Niagara County. The Town's southern boarder is the Tonawanda Creek and Erie County. The eastern boarder of the Town is the Niagara County, Orleans County boundaries. The Town of Lockport borders the town to the west, and the town of Hartland comprises the northern boarder. Located within the Town is the Village of Middleport, which is located in the northeastern portion of the Town. According to the 2000 U.S. Census the Town of Royalton has a population of 7,710, with 2,810 households and 2,121 families residing in the city. The town has a total area of 70.1 mi², with a population density of 110.4 people per square mile. The median income for a household in the city is \$43,516, with 6.8% of the population living below the poverty line.

There are 11 smaller communities/hamlets located within the Town of Royalton. Of these communities Middleport is the only incorporated village in the Town.

- **Dysinger** -- A hamlet on Route 93.
- **Gasport** -- A hamlet on the Erie Canal and Rochester Road.
- **Gilberts Corners** -- A hamlet on Route 77.
- **Leslie** -- A hamlet on Tonawanda Creek Road and Rapids Road.
- **McNalls Corners** -- A hamlet on Route 77 west of Royalton Center.
- **Middleport** -- The Village of Middleport is in the northeast corner of the town.
- **Orangeport** -- A hamlet on the Erie Canal and west of Gasport on Route 31.
- **Royalton Center** -- A hamlet on Chesnut Ridge Road and Royalton Center Road. The community was originally called "Carringtons Corners."
- **Terrys Corners** -- A small hamlet on Chesnut Ridge Road near the western town line.

I. Hazard Mitigation Profile for the Town of Royalton

- **Tonawanda Reservation** -- An uninhabited part of the reservation is in the town,
- **Wolcottsville** -- A hamlet in the southeast part of the town

Town of Royalton was formed in 1817 from part of the Town of Hartland. During the 1800's the Town's industry were sawmills, flour mills, lime kilns, quarries, brick yards, cider and vinegar mills, a pickle factory, cheese factories and basket factories. According to the 2000 U.S. Census the majority of residents within the town work in manufacturing and health, educational and social services industries.

I.3 Vulnerability Profile

I.3.1 Most Significant Hazards Impacting the Town of Royalton

The Town of Royalton has identified the following hazard as posing the most significant impact to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Flooding

The town of Royalton has experienced flooding throughout the town due to heavy rains and severe storms. The flooding is occurring near the Gasport Elementary School and has caused flooded basements and roadways throughout the Town. Dredging Mud Creek and continued ditching efforts along town roads will reduce flooding hazards in the Town. Until these mitigation activities are conducted flooding in the Town of Royalton is expected to continue to impact the community.

Severe Winter Storms

The Town of Royalton has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

I.3.2 Critical Infrastructure within the Town of Royalton

Table I-1 Critical Infrastructure within the Town of Royalton

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Royalton Town Finished Water Storage	Gasport Road S. of Rt. 31	Royalton	Town of Royalton	Water Storage			
Gasport WWTP	4244 Bolton Road	Gasport	Town of Royalton	Water Treatment			

I. Hazard Mitigation Profile for the Town of Royalton

Table I-1 Critical Infrastructure within the Town of Royalton

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Crown Atlantic Company, LLC		Royalton	Crown Atlantic Holding Company LLC. 510 Bering Dr. Suite 500, Houston TX	Communication tower			
Royalton Town Hall	5316 Royalton Center	Royalton	Town of Royalton	Offices			
Royalton Town Highway Department	5317 Royalton Center	Royalton	Town of Royalton	Highway Garage			
Gasport Chemical Hose Co. Fire Department	8408 State St.	Gasport		Fire Hall			
Terry's Corners Fire Company	7801 Chestnut Ridge Rd	Gasport		Fire Hall			
Gasport Elementary School	Route 31	Gasport		School			
Gasport Post Office	8391 Rochester Rd.	Gasport	United States	Office			

I.4 Mitigation Projects Impacting the Town of Royalton

The Town of Royalton has identified several mitigation projects to be completed. These projects are designed to reduce the flooding hazards within the town. These projects are described in detail in Table I-2.

Table I-2 Mitigation Projects Identified by the Town of Royalton

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Complete ditching and flood control projects at Gasport Elementary School	Town of Royalton		
Dredge and clean Mud Creek to control and eliminate flooding.	Town of Lockport, Town of Royalton		
Continue ditching along town roadways and private lands.	Town of Royalton		



Hazard Mitigation Profile for the Town of Cambria

J.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Cambria. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

J.2 Community Profile

The Town of Cambria is located in the center of Niagara County and is situated to the west of the City of Lockport and to the Northeast of the City of Niagara Falls. According to the 2000 U.S. Census the town's population is 5,393. The town contains 1,995 households and 1,524 families. The town encompasses 39.9 square miles, with a population density of 135.3 people per square mile. The median household income is \$46,536, with 5.1% of the population residing below the poverty line.

The Town of Cambria was established in 1808 and encompassed all of Niagara County. All subsequent towns in Niagara County were formed from this territory after 1812. According to the 2000 U.S. Census for the Town of Cambria the major economic sectors in the town include professional occupations, sales and office, transportation, manufacturing, retail trade and educational, health and social services.

J.3 Vulnerability Profile

J.3.1 Most Significant Hazards Impacting the Town of Cambria

The Town of Cambria has identified the following hazard as posing the most significant impact to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Flooding

The Town of Cambria has experienced flooding throughout the town due to heavy rains and severe storms. In addition flooding, the underwater spring present in the town has caused sinkholes to occur through out the town. The water pump stations are inadequate to handle stormwater. Until mitigation measures are implemented, flooding hazard are expected to continue to impact the community.

Erosion

The Niagara Escarpment transects the Town of Cambria, which creates an erosion hazard. Severe erosion of the escarpment could damage transportation infrastructure, isolating each half of the town. Erosion continues to occur on the escarpment, therefore this hazard will continue to pose a threat to the town.

J. Hazard Mitigation Profile for the Town of Cambria

Severe Storms

The Town of Cambria is subject to several severe storms annually, which cause power outages, property damage and even injuries. Downed power lines or trees on critical roads can split the town in half restricting traffic flow from one side of the town to the other. These storms are common throughout the area and are expected to continue to impact the Town.

Severe Winter Storms

The Town of Cambria has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

J.3.2 Critical Infrastructure within the Town of Cambria

Table J-1 Critical Infrastructure within the Town of Cambria

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Cambria Town Finished Water Storage	4160 Upper Mountain Road	Cambria	Town of Cambria	Water Storage		1.3 million gal.	\$1,299,070
Sprint (tower)	4719 Lockport Road	Cambria	Sprint	Communication Tower	248 ft tall (tower)	N/A	\$100,900
Nextel (Communicator)	4719 Lockport Road	Cambria	Nextel		3	N/A	\$53,000
Voicestream (Comm.2)	4719 Lockport Road	Cambria	Voicestream Wireless		3	N/A	\$16,000
Junction Road Recycling	5220 Lockport Junction Road	Cambria	Junction Road Recycling?			N/A	\$5,000
Crown Atlantic Company LLC (tower)	3023 Carney Drive	Cambria	Crown Atlantic Holding Company LLC. 510 Bering Dr. Suite 500, Houston TX	Communication Tower	200	N/A	\$103,700
Verizon Wireless (Communicator)	3023 Carney Drive	Cambria	Verizon Wireless		3	N/A	\$200,800
SBC Tower Holdings (tower)	4621 Ridge Road	Cambria	SBC Tower Holdings	Communication Tower	250	N/A	\$73,600
Cingular Wireless (Communicator)	4621 Ridge Road	Cambria	Cingular Wireless		20	N/A	\$25,000
Omnipoint Communications (Communicator)	4621 Ridge Road	Cambria	Omnipoint Communications			N/A	\$15,000
Crown Atlantic Company LLC	4160 Upper Mountain Road	Cambria	Crown Atlantic Holding Company LLC. 510 Bering Dr. Suite 500, Houston TX		270	N/A	\$105,500
Cingular Wireless (Communicator)	4160 Upper Mountain Road	Cambria	Cingular Wireless		3	N/A	\$42,400

J. Hazard Mitigation Profile for the Town of Cambria

Table J-1 Critical Infrastructure within the Town of Cambria

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Niagara County Community College	3111 Saunders Settlement. Rd..	Cambria	New York State	School	Bldg#1 471,698 Bldg #2 5,220	3,500 people	\$62,882,700
Niagara Orleans B.O.C.E.S.	3181 Saunders Settlement. Rd.	Cambria	New York State	School	Bldg#1 114,632/ Bldg # 2 47,000	1061 people	\$10,446,600
Niagara Orleans B.O.C.E.S.	4124 Saunders Settlement. Rd.	Cambria	New York State	School	Bldg #1 12,000/ Bldg #2 14,400	72 people	\$1,163,000
Town of Cambria Town Hall	4160 Upper Mountain Road	Cambria	Town of Cambria	Office Building	Town Hall 7,955/ Comm. Bldg. 940	25-30 people	Total for 26.20 acres \$1,923,600
Town of Cambria Municipal Building	4164 Upper Mountain Road	Cambria	Town of Cambria	Office Building	20,000	15 people	Total for 26.20 acres \$1,923,600
Pekin Fire Company, Inc.	3024 Upper Mountain Road	Cambria	Pekin Fire Co.	Fire Station	Bldg #1 6351/ Bldg #2 5456	5-10 people	\$604,600
Cambria Fire Company	4631 Cambria Wilson Rd	Cambria	Cambria Fire Co.	Fire Station	Bldg #1 7500/ Bldg #2 10,846	5-10 people	\$544,900

J.4 Mitigation Projects Impacting the Town of Cambria

The Town of Cambria has identified several mitigation projects to be completed. These projects are designed to increase emergency preparedness and manage flooding hazards within the town. These projects are described in detail in Table J-2.

Table J-2 Mitigation Projects Identified by the Town of Cambria

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Complete a Comprehensive Emergency Management Plan for the Town to include standard operating procedures for any evacuation situation including severe winter storms, power outage and flooding.	Town of Cambria		
Conduct a risk assessment for a severe snowstorm within the Town.	Town of Cambria		
Development of a Stormwater Management Plan	Town of Cambria		

J. Hazard Mitigation Profile for the Town of Cambria

Table J-2 Mitigation Projects Identified by the Town of Cambria

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Install an emergency generator and housing for the Town of Cambria Water Tank. Generator size to be no less than 125 kW, including a 24-hour stand-by tank and pre-cast concrete housing.	Town of Cambria		\$120,000
Improve security of Town Hall grounds and water storage tank by supplementing existing fencing with cameras and infra-red motion detectors.	Town of Cambria		



Hazard Mitigation Profile for the Town of Pendleton

K. Hazard Mitigation Profile for the Town of Pendleton

K.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Pendleton. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

K.2 Community Profile

The Town of Pendleton lies on the southernmost edge of the central part of Niagara County and straddles the Erie Canal. According to the 2000 U.S. Census the town has a population of 6,050. The town contains 2,116 households and 1,724 families. The municipality encompasses a total of 27.4 square miles, with a population density of 222.6 people per square mile. The median household income in the town was \$60,625, with 4.7% of the population residing below the poverty line.

The Town of Pendleton contains 6 smaller communities:

- **Beach Ridge** – A hamlet near the western town line.
- **Hoffman** – A hamlet near Tonawanda Creek on the western town line.
- **Mapleton** – A small hamlet in the northwest corner of the town.
- **Pendleton Center** – A hamlet located in the center of the town on Route 270.
- **Wendleville** – A hamlet on Route 270 near Tonawanda Creek.
- **Pendleton** – A small hamlet by the southern town line near the junction of the Erie Canal and Tonawanda Creek.

The Town of Pendleton was segregated from the Town of Niagara in 1827. The town is named after Sylvester Pendleton Clark, one of the first persons to settle in the territory. According to the 2000 U.S. Census for the Town of Pendleton, the major economic sectors include professional occupations, sales and office, transportation, manufacturing and educational, health and social services.

K.3 Vulnerability Profile

K.3.1 Most Significant Hazards Impacting the Town of Pendleton

The Town of Pendleton has identified the following hazard as posing the most significant impact to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

K. Hazard Mitigation Profile for the Town of Pendleton

Flooding

The Town of Pendleton has experienced flooding throughout the town due to heavy rains and severe storms. The storms that cause flooding are expected annually; therefore this hazard will continue to impact the town.

Severe Winter Storms

The Town of Pendleton has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

K.3.2 Critical Infrastructure within the Town of Pendleton

Table K-1 Critical Infrastructure within the Town of Pendleton

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
North Buffalo Suburban Airport	6700 South Transit Road	Pendleton	North Buffalo Suburban Airport 6700 S. Transit Pendleton, NY	Airport			
Smith Airport	4262 Beach Ridge Road	Pendleton	Thomas E., June C. Smith	Airport			
Flying F Airport	7100 Campbell Blvd	Pendleton	Flying F Airport	Airport			
Pendleton Airpark Airport	286 Creekside Drive	Pendleton	Pendleton Airpark Airport	Airport			
Pendleton Town Finished Water Storage	6596 Campbell Blvd	Pendleton	Town of Pendleton	Water Storage			
Pendleton Town Hall	6570 Campbell Blvd.	Pendleton	Town of Pendleton	Office Building	8,016		\$675,800
Pendleton Town Garage	6568 Campbell Blvd.	Pendleton	Town of Pendleton	Highway Garage	15,625		\$400,000
Wendelville Fire Hall #1	7340 Campbell Blvd.	Pendleton	Wendelville Fire Co.	Fire Station	11,440		\$533,600
Wendelville Fire Hall #2	Main Road	Pendleton	Wendelville Fire Co.	Fire Station	720		\$96,000
Wendelville Fire Hall #3	East Canal Road	Pendleton	Wendelville Fire Co.	Fire Station	1,320		\$52,800

K.4 Mitigation Projects Impacting the Town of Pendleton

The Town of Pendleton has identified several mitigation projects to be completed. These projects are designed to reduce the flooding hazards within the town. These projects are described in detail in Table K-2.

K. Hazard Mitigation Profile for the Town of Pendleton

Table K-2 Mitigation Projects Identified by the Town of Pendleton

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Ditching throughout Town to reduce flooding	Town of Pendleton	5 years	



Hazard Mitigation Profile for the Town of Wilson

L. Hazard Mitigation Profile for the Town of Wilson

L.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Wilson. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

L.2 Community Profile

The Town of Wilson is located on the northern border of Niagara County along the south shore of Lake Ontario, and contains the Village of Wilson. According to the 2000 U.S. Census the village has a population of 5,840. The town contains 2,224 households and 1,672 families. The municipality encompasses 51.5 square miles, with a population density of 117.9 people per square mile. The median household income in the town was \$44,557, with 5.2% of the population residing below the poverty line.

The Town of Wilson contains 10 smaller communities:

- **Coolidge Beach** – A shoreline hamlet to the west of Roosevelt Beach.
- **East Wilson** – A hamlet near the eastern town line on Chestnut Road.
- **Elberta** – A hamlet in the western part of the town, south of Wilson village.
- **Pleasant Corners** – A hamlet on Route 425.
- **Roosevelt Beach** – A shoreline hamlet to the Wilson village.
- **Hopkins Beach** – A shoreline hamlet near the western County line.
- **South Wilson** – A hamlet south of Wilson Village on Route 425.
- **Sunset Beach** – A shoreline hamlet to the west of Wilson Village.
- **Village of Wilson** – The Village of Wilson on the shore of Lake Ontario in the northern section of the town.

The Town of Wilson was established in 1818 and still dons one of Niagara County's oldest landmarks, the Reuben Wilson home. The construction of this home is believed to have started in 1818. Also located in the town are Dogwood Park and Wilson-Tuscarora State Park. At the Wilson-Tuscarora state Park, Twelve Mile Creek flows into Lake Ontario. According to the 2000 U.S. Census for the Town of Wilson the major economic sectors in the town include profes-

L. Hazard Mitigation Profile for the Town of Wilson

sional occupations, sales and office, transportation, manufacturing and educational, health and social services.

L.3 Vulnerability Profile

L.3.1 Most Significant Hazards Impacting the Town of Wilson

The Town of Wilson has identified the following hazard as posing the most significant impact to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Terrorism/International Boarder Control

The Town of Wilson is located directly on Lake Ontario, and shares a boarder with Canada. The town has miles of unsecured lake shore which could be a potential unlawful entry into the United States. This is a threat that will continue until the boarder is secured.

Water Contamination

The Town of Wilson is vulnerable to water contamination, if a water line should break, the water would run a path that would possibly contaminate the Town's water supply with manure and/or chemicals from agriculture.

Severe Storms

The Town of Wilson has experiences severe storms annually, which cause power outages, property damage and even injuries. As these storms are expected annually, this hazard will continue to impact the town.

Severe Winter Storms

The Town of Wilson has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

L.3.2 Critical Infrastructure within the Town of Wilson

Table L-1 Critical Infrastructure within the Town of Wilson

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Hollands International Field Airport	3316 Beebe Road	Town of Wilson	Prudence Hollands 3316 Beebe Road Newfane, NY 14108	Airport	102 Acres	N/A	\$183,000
Global Communication	3360 Wilson Cambria Rd	Town of Wilson	Global Signal 2211 E. Grove Rd Erie, PA 16150	Communication Tower	2,500	N/A	\$114,200
Wilson Town Finished Water Storage	3356 Wilson Cambria Road	Town of Wilson	Town of Wilson	Water Storage	1,560	N/A	\$342,500
South Wilson Fire Company	4194 Chestnut Street	Town of Wilson	South Wilson Fire Company	Fire Station	12,067	24	\$340,100

L. Hazard Mitigation Profile for the Town of Wilson

Table L-1 Critical Infrastructure within the Town of Wilson

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Wilson Town/Village Hall	375 Lake Street	Town of Wilson	Town of Wilson and Village of Wilson	Office Building	5,454	10	\$233,200
Wilson Town Highway Department	3356 Wilson Cambria Road	Town of Wilson	Town of Wilson	Highway Garage	12,240	7	\$358,300

L.4 Mitigation Projects Impacting the Town of Wilson

The Town of Wilson has identified several mitigation projects to be completed. These projects are designed to improve overall emergency preparedness within the town. These projects are described in detail in Table L-2.

Table L-2 Mitigation Projects Identified by the Town of Wilson

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Develop a Comprehensive Emergency Management Plan for the Town	Town of Wilson		
Continue annual ditching program to reduce flooding within the Town	Town of Wilson		



Hazard Mitigation Profile for the Village of Wilson

M. Hazard Mitigation Profile for the Village of Wilson

M.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Village of Wilson. The hazard mitigation projects that will directly impact the village are also included here. This Appendix does not contain all of the information contributed by the village for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the village which was considered in the development of that Plan.

M.2 Community Profile

The Village of Wilson is located within the Town of Wilson in northern Niagara County, on the southern shore of Lake Ontario. The Village of Wilson was incorporated in 1858. According to the 2000 U.S. Census, the village has a population of 1,213 people, and there are 505 households, and 348 families residing in the village. The village has a total area of 1.0 mi² with a population density of 1,474.5 people per square mile. The median income for a household in the village was \$36,534, with 4.6% of the population was below the poverty line.

M.3 Vulnerability Profile

M.3.1 Most Significant Hazards Impacting the Village of Wilson

The Village of Wilson has identified the following hazard as posing the most significant impact to the Village. Note that additional hazards have been identified as having the potential to significantly impact the Village according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Severe Storms

The Village of Wilson has experiences severe storms annually, which cause power outages, property damage and even injuries. As these storms are expected annually, this hazard will continue to impact the Village.

Severe Winter Storms

The Village of Wilson has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Village.

M.3.2 Critical Infrastructure within the Village of Wilson

Table M-1 Critical Infrastructure within the Village of Wilson

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Pfeiffer Foods Inc.	683 Lake Street	Village of Wilson	Pfeiffer Food DIV of T Marzetti Inc. 683 Lake St. Wilson, NY	Food Manufacturing Plant	250 employees	86,000	\$1,348,000

M. Hazard Mitigation Profile for the Village of Wilson

Table M-1 Critical Infrastructure within the Village of Wilson

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Crown Atlantic Company	610-612 Lake St.	Village of Wilson	Crown Atlantic Co. 4017 Washington Rd. McMurray PA 15317	Communication Tower	N/A	2500	\$118,100
Wilson Waste Water Treatment Plant	109 Ontario Street	Village of Wilson	Village of Wilson	Water Treatment Plant	2 Employees	10261	\$1,077,000
Wilson Fire Company	250 Young Street	Village of Wilson	Wilson Fire Company #1	Fire Station	33	12831	\$406,300
Middle/High School	374 Lake Street	Village of Wilson	Wilson Central School District	School	250 (including all 3 schools)	176349 (including all 3 schools)	\$10,212,500
Thomas Marks Elementary School	430 Young Street	Village of Wilson	Wilson Central School District	School	See above		
Wilson Post Office	367 McChesney	Village of Wilson	United States	Office Building	4	3072	\$153,600
Wilson Village Highway Department	350 Ontario Street	Village of Wilson	Village of Wilson	Highway Garage	3	2520	\$74,300

M.4 Mitigation Projects Impacting the Village of Wilson

The mitigation project described in Table M-2 is designed to reduce hazards within the Village.

Table M-2 Mitigation Projects Identified for the Village of Wilson

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Complete a Comprehensive Emergency Management Plan for the Village to include standard operating procedures for severe storms and severe winter storms including blizzards and ice storms.	Village of Wilson	End of 2008	\$10,000



Hazard Mitigation Profile for the City of Niagara Falls

N. Hazard Mitigation Profile for the City of Niagara Falls

N.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the City of Niagara Falls. The hazard mitigation projects that will directly impact the city are also included here. This Appendix does not contain all of the information contributed by the city for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the city which was considered in the development of that Plan.

N.2 Community Profile

The City of Niagara Falls is located in southwest corner of Niagara County. The city's southern and western boarder is made up of the Niagara River. The Town of Niagara is located northeast of the city making up most of its north and eastern boarders. The Town of Lewiston shares a small portion of the northern boarder, and the Town of Wheatfield shares a portion of the southernmost eastern boarder. The City of Niagara Falls has population of 55,593 people 24,099 households, and 14,266 families. The city has a total area of 16.8 mi², with a population density of 3,955 people per square mile. The median income for a household in the city was \$26,800, with 19.5% of the population living below the poverty line.

The City of Niagara Falls was incorporated on March 17, 1892, when the city was a heavy industrial area. Industry in the City relied upon the energy produced by the Niagara River. Although the city is still an industrial area, it is focusing attention on building its tourism related businesses.

N.3 Vulnerability Profile

N.3.1 Most Significant Hazards Impacting the City of Niagara Falls

The City of Niagara Falls has identified the following hazard as posing the most significant impact to the City. Note that additional hazards have been identified as having the potential to significantly impact the City according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Dam Failure/Water Intakes

The City of Niagara Falls would be vulnerable to an accidental/intentional incident at the Robert Moses Power Dam or the Lewiston Reservoir Dike. A major breach in either of these facilities would cause the city to be flooded. Although the Gill Creek Dam does not pose a significant threat to the City, a breach in the Lewiston Reservoir Dike would cause the Gill Creek Dam to be washed out.

The water intakes that supply water to the Robert Moses Power Plant, in Lewiston, run directly beneath the City. If the water intakes are breached or fail on the Lewiston end, the entire industrial area of the City would flood. If these water intakes were to shut down (accidentally/intentionally) the entire city would lose power.

N. Hazard Mitigation Profile for the City of Niagara Falls

Earthquake

Although the City of Niagara Falls has never experienced a significant earthquake, the fault line that runs through the city poses a possible hazard. If the fault line ruptured causing a major earthquake in the area, this could be catastrophic to the city. The potential impacts of an earthquake include significant damage to the Robert Moses power plant's infrastructure (water intakes, reservoir, power generating turbines), and to the entire critical infrastructure of the City.

Terrorism

The City of Niagara Falls is located directly on the Niagara River which is also the United States/Canadian border. The border crossings are considered vulnerable to unlawful entry of illegal immigrant and to potential terrorist attacks. The border does not contain adequate patrols and can be easily breached. Until the border can be adequately controlled this threat will continue to pose a significant threat to the City.

The City of Niagara Falls has critical infrastructure that includes the power plant infrastructure and chemical manufacturing industries that could be targets of terrorism. Several of the chemical manufacturing has been identified by the City as having a potential for mass casualties and property damage if a terrorist event occurs on site.

Severe Winter Storms

The City of Niagara Falls has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

N.3.2 Critical Infrastructure within the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Niagara Falls International Airport	10670 Krug Ave.	Niagara Falls	Niagara Frontier Transportation Authority 181 Ellicott Street · Buffalo, New York 14203				
Niagara Falls International Airport	Niagara Falls Blvd at Porter Road	Niagara Falls	Niagara Frontier Transportation Authority 181 Ellicott Street · Buffalo, New York 14203				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Best Western Red Jacket Inn Heliport	7001 Buffalo Avenue Latitude 393010 Longitude 1120110	Niagara Falls	JACK B. JOHNSON- Best Western Red Jacket Inn 7001 Buffalo Ave. Niagara Falls, NY				
Rainbow Helicopters Inc.	454 Main Street Latitude 371840 Longitude 1126090	Niagara Falls	WAFER INC. 454 Main Street Niagara Falls, NY				
Ross Heliport, Ross Street Erection Corp.	8555 Packard Road Latitude 397600 Longitude 1136250	Niagara Falls	ROSS STEEL ERECTION CORP 8555 Packard Road Niagara Falls				
Niagara Falls Memorial Parking Ramp Heliport	621 Tenth Street Latitude 375650 Longitude 1127620	Niagara Falls	Niagara Falls Memorial Medical Center 621 Tenth St. Niagara Falls, NY				
Niagara Falls Railroad Station	27 Lockport Road	Niagara Falls	National Railroad Passenger Corporation (AMTRAK) 60 Massachusetts Ave. NE Washington, DC 20002				
Leaseway Motorcar Transport	4749 Witmer Road Latitude 382320 Longitude 1139680	Niagara Falls	Leaseway Motorcar Transport Company 3750 Park East Dr Beachwood, Ohio (OH) 44122				
CSXT Niagara Falls Suspension Bridge	29th & Seneca Streets	Niagara Falls	CSX Transportation Inc. 500 Water Street Jacksonville, FL 32202				
Niagara Catholic High School	520 66th Street	Niagara Falls					
Stella Niagara Education Park	4421 Lower River Road	Stella Niagara					
Prince of Peace School	1055 N Military Road	Niagara Falls					
Niagara Christian Academy	601 28th Street	Niagara Falls					
Our Lady of Mount Carmel	2499 Independence Avenue	Niagara Falls					

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
St. John De Lasalle School	8477 Buffalo Ave	Niagara Falls					
St. Joseph Elementary School	625 Tronolone Place	Niagara Falls					
Holy Ghost Lutheran School	6630 Luther St	Niagara Falls					
St. Dominic Savio Middle School	504 66th Street	Niagara Falls					
Sprint Spectrum, LP		Niagara Falls	Sprint Spectrum, LP 6200 Sprint Parkway Overland Park, KS 66251				
Crown Atlantic Company, LLC		Niagara Falls	Crown Atlantic Holding Company LLC. 510 Bering Dr. Suite 500, Houston TX				
Wireless Solutions, LLC		Niagara Falls	Sprint Spectrum, LP 6200 Sprint Parkway Overland Park, KS 66251				
VPS Empire State, Inc., Niagara Falls Generation	300 Frontier Ave.	Niagara Falls	VPS Empirer State, Inc.				
National Fuel Gas	6250 Packard Road Latitude 390530 Longitude 1131780	Niagara Falls	National Fuel Gas Company 6363 Main Street Williamsville, NY 14221				
CSXT Niagara Falls Rail yard		Niagara Falls	CSX Transportation Inc. 500 Water Street Jacksonville, FL 32202				
Laidlaw Transit Inc.	455 Niagara Falls Blvd.	Niagara Falls	Laidlaw International Inc. 55 Shuman Boulevard Naperville, IL 60563				
American Biorganics	2236 Liberty Drive Latitude 408210 Longitude 119810	Niagara Falls	American Biorganics Inc. 2236 Liberty Dr. Niagara Falls, NY				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Ferrellgas	2150 Lockport Road Latitude 406440 Longitude 1137320	Niagara Falls	Ferrellgas Propane Inc. One Liberty Plaza Liberty, Missouri 64068				
CSXT Niagara Falls Rail yard		Niagara Falls	CSX Transportation Inc. 500 Water Street Jacksonville, FL 32202				
Laidlaw Transit Inc.	455 Niagara Falls Blvd.	Niagara Falls	Laidlaw International Inc. 55 Shuman Boulevard Naperville, IL 60563				
American Biorganics	2236 Liberty Drive Latitude 408210 Longitude 119810	Niagara Falls	American Biorganics Inc. 2236 Liberty Dr. Niagara Falls, NY				
Ferrellgas	2150 Lockport Road Latitude 406440 Longitude 1137320	Niagara Falls	Ferrellgas Propane Inc. One Liberty Plaza Liberty, Missouri 64068				
Durez Niagara	5000 Packard Road Latitude 388100 Longitude 1139800	Niagara Falls	Occidental Chemical Corp. Occidental Tower 5005 LBJ Freeway Dallas, Texas 75244				
Carbide/Graphite Group Inc	4861 Packard Road Latitude 387780 Longitude 1128560	Niagara Falls	Carbide/Graphite Group Inc. 1 Gateway Center, 19th Fl. Pittsburgh, PA 15222				
American Ref-Fuel	100 Energy Blvd. & 56th Street Latitude 386720 Longitude 1123730	Niagara Falls	United American Energy Corp. 50 Tice Boulevard Woodcliff Lake, NJ 07677				
Atlantic Research Corp.	6686 Walmore Road	Niagara Falls	SEQUA Corporation 200 Park Ave. New York, NY 10166				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
BFI waste Systems/Niagara Recycling	56th Street & Niagara Falls Blvd Latitude 388550 Longitude 1126930	Niagara Falls	Allied Waste Inc. 15880 N. Greenway-Hayden Loop Suite 100 Scottsdale, AZ 85260				
Saint-Gobain Advanced Ceramics	22 Acneson Drive	Niagara Falls	Saint-Gobain Advanced Ceramics Hamilton 45 Curtis Avenue North P.O. Box 551 Paris, Ontario, Canada N3L 3T6				
Cecos International	5600 Niagara Falls Blvd. Latitude 388710 Longitude 1126830	Niagara Falls	Cecos International Inc. 5600 Niagara Falls Blvd. Niagara Falls, NY				
K-C Divsetiture Corp.	3943 Buffalo Avenue Latitude 384610 Longitude 1122740	Niagara Falls	Alox Corporation Street Dr. Rodrigo de Barros, 261 - CEP 01106-020 São Paulo - Sp- Brazil				
Angus Buffers & Biochemicals	2236 Liberty Drive Latitude 408210 Longitude 119810	Niagara Falls	ANGUS Chemical Company 1500 E. Lake Cook Rd. Buffalo Grove IL 60089				
Ferro Electronic Materials	4511 Hyde Park Blvd. Latitude 379240 Longitude 1140420	Niagara Falls	Ferro Corporation 1000 Lakeside Avenue Cleveland, Ohio 44114-7000				
Ceres Corporation	2250 Liberty Drive Latitude 408730 Longitude 119820	Niagara Falls	Ceres Corporation 424 Second St., Suite B Davis, CA 95616 USA				
LaFarge Group	500 Richfield Street Latitude 464690 Longitude 1153230	Niagara	Lafarge North America Inc. 12950 Worldgate Drive, Suite 600 Herndon, Virginia 20170				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Globe Metallurgical, Inc.	3807 Highland Avenue	Niagara Falls	Globe Metallurgical Inc. 3807 Highland Ave. Niagara Falls, NY				
William Specialty Alloys	2080 Lockport Road Latitude 405180 Longitude 1136640	Niagara Falls	William L Bonnell Company, Inc. 25 Bonnell Street P.O. Box 428 Newnan, GA 30263				
LaFarge Corp.	1717 New Road Latitude 387750 Longitude 1130840	Niagara Falls	Lafarge North America Inc. 12950 Worldgate Drive, Suite 600 Herndon, Virginia 20170				
EI Dupont De Nemours Company	787 Buffalo Ave. and 26th Street Latitude 382830 Longitude 1123110	Niagara Falls	Dupont E I De Nemours Co. 3181 Buffalo Avenue, Niagara Falls				
ESAB Weld and Cutting Products	747 47th Street	Niagara Falls	Charter plc 52 Grosvenor Gardens London SW1W 0AU				
Flame Control Coatings Inc.	PO Box 786	Niagara Falls	Flame Control Coating Inc. P.O. Box 786 - Niagara Falls, NY 14302				
Lockheed Martin Corp	2221 Niagara Falls Blvd.	Niagara Falls	Lockheed Martin Aeronautics Company P.O. Box 748 Fort Worth, Texas 76101				
Goodyear Tire and Rubber	5500 Goodyear Drive Latitude 388180 Longitude 1124850	Niagara Falls	Goodyear Tire and Rubber Co. 1144 East Market Street Akron, Ohio 44316-0001				
Kanthal Global	3425 Hyde Park Blvd. Latitude 379860 Longitude 1136700	Niagara Falls	Sandvik Group Company SE-811 81 Sandviken Sweden				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Norampac Industry Inc.	4001 Packard Road Latitude 385310 Longitude 1126400	Niagara Falls	Niagara County IDA Re: Cascades Inc. 404 Marie-Victorin Blvd. P.O. Box 30 Kingsey Falls, Quebec Canada J0A 1B0				
Norton Ekonol Resins	6600 Walmore Road Latitude 406020 Longitude 1131440	Niagara Falls	Saint-Gobain Abrasives One New Bond Street P.O. Box 15008 Worcester, MA 01615-0008				
Niacet Corp.	400 47th Street Latitude 386560 Longitude 1126420	Niagara Falls	Niacet Corp. 400 47th St. Niagara Falls NY 14304				
Precious Plate, Inc.	2124 Liberty Drive Latitude 405530 Longitude 1120600	Niagara Falls	Precious Plate Inc. 2124 Liberty Drive Niagara Falls, NY, 14304				
Niagara County Water District (NCWD)	7227 Williams Road	Niagara Falls	County of Niagara				
Niagara Falls Water Treatment Facility	5815 Buffalo Avenue – PO Box 69 Latitude 389240 Longitude 1120970	Niagara Falls	City of Niagara Falls				
Niagara Falls Finished Water Storage Tank	56th Street	Niagara Falls	City of Niagara Falls				
Niagara Falls Finished Water Storage Tank	5815 Buffalo Avenue Latitude 389240 Longitude 1120970	Niagara Falls	City of Niagara Falls				
Niagara Falls Raw Water Pump Station	Buffalo Avenue - PO Box 69 Latitude 389240 Longitude 1120970	Niagara Falls	City of Niagara Falls				
Niagara Falls Waste Water Facility	1200 Buffalo Avenue	Niagara Falls	City of Niagara Falls				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Niagara County Sewer District #1	7346 Liberty Drive	Niagara Falls	County of Niagara				
Niagara Falls Memorial Medical Center	621 Tenth Street Latitude 375650 Longitude 1127620	Niagara Falls	Niagara Falls Memorial Nursing Home Co. Inc.				
Bergholz Fire Company	2470 Niagara Road Latitude 412280 Longitude 1130900	Niagara Falls	Bergholz Fire Company				
Lewiston #2 Fire Company	1705 Saunders-Settlement Road	Niagara Falls	Lewiston #2 Fire Company				
Niagara Falls Fire Department	3115 Walnut Avenue Latitude 382220 Longitude 1127320	Niagara Falls	City of Niagara Falls				
Niagara Active Hose	6010 Lockport Road Latitude 390370 Longitude 117500	Niagara Falls	Niagara Fire Company #1 Inc.				
Niagara Falls City Police Department	520 Hyde Park Boulevard Latitude 382250 Longitude 127040	Niagara Falls	City of Niagara Falls				
Civic Building	775 Third Street Latitude 372800 Longitude 1128310	Niagara Falls	County of Niagara				
Human Resources Building	301 Tenth Street Latitude 375490 Longitude 115360	Niagara Falls	County of Niagara				
Trott ACCESS Center	1001 11th Street Latitude 375470 Longitude 1129380	Niagara Falls	County of Niagara				
Niagara Falls City Hall	745 Main Street Latitude 373950 Longitude 1128250	Niagara Falls	City of Niagara Falls				
60th Street Elementary School	6040 Lindbergh Avenue Latitude 389920 Longitude 112390	Niagara Falls	Niagara Falls City School District				
66th Street Elementary School	630 66th Street Latitude 391500 Longitude 1124830	Niagara Falls	Niagara Falls City School District				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
79th Street Elementary School	551 79th Street Latitude 395790 Longitude 1123990	Niagara Falls	Niagara Falls City School District				
Community Education Center - 24th Street	901 24th Street Latitude 379910 Longitude 1128920	Niagara Falls	Niagara Falls City School District				
Gaskill Middle School	910 Hyde Park Boulevard Latitude 381630 Longitude 1128890	Niagara Falls	Niagara Falls City School District				
Geraldine J. Mann Elementary	1330 95th Street Latitude 401380 Longitude 1127160	Niagara Falls	Niagara Falls City School District				
Harry F. Abate Elementary	1625 Lockport Road	Niagara Falls	Niagara Falls City School District				
Hyde Park Elementary	1620 Hyde Park Boulevard Latitude 380950 Longitude 1131220	Niagara Falls	Niagara Falls City School District				
Kalfas Magnet School	1800 Beech Avenue	Niagara Falls	Niagara Falls City School District				
Lasalle Middle School	7436 Buffalo Avenue	Niagara Falls	Niagara Falls City School District				
Maple Avenue Elementary	Maple & McKoon Avenue	Niagara Falls	Niagara Falls City School District				
Niagara Falls High School	4455 Porter Road Latitude 385580 Longitude 1131350	Niagara Falls	Niagara Falls City School District				
Niagara Middle School	6431 Girard Avenue Latitude 391460 Longitude 1124220	Niagara Falls	Niagara Falls City School District				
Niagara Street Elementary	Niagara & 25th Street	Niagara Falls	Niagara Falls City School District				
Administration Building	607 Walnut Avenue Latitude 373880 Longitude 1127170	Niagara Falls	Niagara Falls City School District				

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-1 Critical Infrastructure within the City of Niagara Falls

Name	Address	Town	Owner	Usage	Square Footage	Occupancy	Estimated Monetary Value
Administration Annex	606 Walnut Avenue Latitude 373860 Longitude 1127340	Niagara Falls	Niagara Falls City School District				
Maintenance Department	1170 Elmwood Avenue Latitude 375820 Longitude 1129310	Niagara Falls	Niagara Falls City School District				
Central Warehouse and Receiving	543 6th Street Latitude 373890 Longitude 1126990	Niagara Falls	Niagara Falls City School District				
Community Education Center - Portage	561 Portage Road Latitude 376350 Longitude 1127060	Niagara Falls	Niagara Falls City School District				
Niagara Falls Air Base	10670 Krug Ave	Niagara Falls	US ARMY				
Niagara Falls City Highway Department'	New Road Corporation Yard	Niagara Falls	City of Niagara Falls				
Niagara Falls Outlet Mall	1900 Military Road	Niagara Falls	Prime Outlets				

N.4 Mitigation Projects Impacting the City of Niagara Falls

The City of Niagara Falls has identified several mitigation projects to be completed. These projects are designed to reduce hazards within the city. These projects are described in detail in Table N-2.

Table N-2 Mitigation Projects Identified by the City of Niagara Falls

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Enhancements to the Corporation Yard on New Road. Project will include hardening of property to address security concerns, replacement of compromised fuel storage and delivery system, provided redundant power, replace outdated electrical service, install card access control and camera monitoring system, and provide for both primary and secondary communications system.	City of Niagara Falls		\$3,000,000
Build capacity to respond to and recover from significant weather related events. Proposed project will include acquisition of portable lighting to support emergency operations, replace outdated and unreliable snow fighting equipment, purchase portable generators and dewatering devices, provide storage facilities, enhance communications, acquire Public Service radio frequencies, and replace outdated tree removal equipment	City of Niagara Falls		\$4,000,000

N. Hazard Mitigation Profile for the City of Niagara Falls

Table N-2 Mitigation Projects Identified by the City of Niagara Falls

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Provide for Public Safety enhancements and Critical Infrastructure Protection. Project will include: acquire, equip, and train first responders to be able to respond to high water emergencies, provide Chemical Protective Clothing for all first responders, redundant radio capability, and traffic control hardware. In addition the project will include Phase I of hardening Critical Infrastructure to include; Public safety facilities, hospital, City Hall, drinking water distribution system, power and gas generating and distribution sites, chemical plants, transportation corridor to include rail lines (freight and passenger).	City of Niagara Falls, Niagara Falls Memorial Medical Center, Niagara Falls Water Board, chemical industry, National Grid, National Power,		\$10,000,000
Alternative Emergency Operations Center (Robins Drive): This project includes those enhancements that will allow this facility to serve as an alternate to the proposed EOC (at the proposed Courthouse) as well as a base of operations for assisting agencies and staging area for resources. Project will include redundant power, security, building renovation, replace and repair fuel delivery system to include back-up power.	City of Niagara Falls		\$2,500,000
Public Education, Notification, and Preparedness Initiative: This project includes the development of an emergency warning and notification system to the general public, emergency personnel, business partners, and other stakeholders. In includes the development of an evacuation plan, development of sheltering capability, and also the development of an alliance with the Tourist Industry to address the same.	City of Niagara Falls, Block Clubs, Hotel and Motel industry, and Niagara Tourist Association		\$1,500,000
Traffic Safety Improvements to Evacuation Corridors: Project will include enhancing bridge construction and reducing vulnerability to seismic event (natural and manmade), traffic reengineering and contra flow capability	City of Niagara Falls		\$4,500,000
Continuity of Operation and Services: Project will include the enhancement of capability of both emergency and non-emergency (but essential) services. Project will address communications, mobility, and tracking of resources.	City of Niagara Falls		\$750,000



Hazard Mitigation Profile for the Town of Niagara

O. Hazard Mitigation Profile for the Town of Niagara

O.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Niagara. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

O.2 Community Profile

The Town of Niagara is located in the southwest corner of Niagara County and surrounds the City of Niagara Falls. The town of Niagara is bordered to the east by the Town of Wheatfield, to north by the Town of Lewiston and to the south by the City of Niagara Falls. According to the 2000 U.S. Census the City has a population of 8,978. The town contains 3,611 households and 2,480 families. The municipality has a total area of 9.4 square miles, with a population density of 955.8 people per square mile. The median household income in the town was \$37,327, with 9.3% of the population residing below the poverty line.

The Town of Niagara was founded in 1812 and was originally called the Town of Schlosser. After being founded, for more than a hundred years, the Town of Niagara was mainly a farming community with most local activity centered around Military Road and the surrounding area. Today, Military Road remains a major passageway for transportation and activity. According to the 2000 U.S. Census for the Town of Niagara the major economic sectors in the town include professional occupations, sales and office, transportation, manufacturing, retail trade and educational, health and social services.

O.3 Vulnerability Profile

O.3.1 Most Significant Hazards Impacting the Town of Niagara

The Town of Niagara has identified the following hazard as posing the most significant impact to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Flooding

The Town of Niagara has experienced flooding throughout the town due to heavy rains and severe storms. The storms that cause flooding are expected annually; therefore this hazard will continue to pose a threat to the Town.

Power Outage

The Town of Niagara has experiences several massive power outages throughout the town and at the Niagara Falls Outlet Mall located within the town. These power outages were the result of human error (in the August 2003 outage) and

O. Hazard Mitigation Profile for the Town of Niagara

severe storms. As these storms are expected several times a year, power outages throughout the Town will continue to impact the Town.

Severe Winter Storms

The Town of Niagara has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. Storm water sewer system is inadequate to handle excessive storm water causing the flooding throughout the Town. As these storms are expected several times a year this hazard will continue to impact the Town.

Bombings

The Town of Niagara has experienced several bombing incidents at the Niagara Falls Outlet Mall. In 2004 an electrically wired possible bomb was found and disassembled at the Mall. Since this incident two other credible bomb threats at the Outlet Mall were reported causing the evacuation of the entire mall, although no bombs were found. Due to the number of past incidents experienced by the Town it is expected that this hazard will continue to impact the Town.

O.3.2 Critical Infrastructure within the Town of Niagara

Table O-1 Critical Infrastructure within the Town of Niagara

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Niagara Town Hall	7105 Lockport Road	Niagara	Town of Niagara				
Niagara Town Highway Department	7105 Lockport Road	Niagara	Town of Niagara				
Niagara University	3100 Lewiston Road	Niagara	Niagara University Niagara, NY				
Verizon Communications	3085 Woodland Ave.	Niagara	Verizon Communications				
Verizon Wireless	7105 Lockport Road	Niagara	Verizon Wireless				
Voice Stream	7105 Lockport Road	Niagara	Voice Stream				
T-Mobile	7105 Lockport Road	Niagara	T-Mobile				
Sprint Spectrum, LP	5000 Mayle Court	Niagara	Sprint Spectrum, LP				
Nextel of New York, Inc.	5000 Mayle Court	Niagara	Nextel of New York, Inc.				
AT&T Wireless	3800 Military Road	Niagara	AT&T Wireless				
Cricket	3800 Military Road	Niagara	Cricket				
Nextel of New York, Inc.	1551 Factory Outlet Boulevard	Niagara	Nextel of New York, Inc.				
AT&T Wireless	10420 Lockport Road	Niagara	AT&T Wireless				
Nortel	10420 Lockport Road	Niagara	Nortel				
Sprint Spectrum, LP	10420 Lockport Road	Niagara	Sprint Spectrum, LP				

O. Hazard Mitigation Profile for the Town of Niagara

Table O-1 Critical Infrastructure within the Town of Niagara

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
LaFarge Group	500 Richfield Street	Niagara	Lafarge North America Inc. 12950 Worldgate Drive, Suite 600 Herndon, Virginia 20170				
BFI Waste Systems/Niagara Recycling	56th Street and Niagara Falls Boulevard	Niagara	Allied Waste Inc.				
Ferro Electronic Materials	4511 Hyde Park Boulevard	Niagara	Ferro Corporation				
Falls Welding Supply	6375 Packard Road	Niagara					
LaFarge Group	8875 Quarry Road	Niagara	Lafarge North America Inc. 12950 Worldgate Drive, Suite 600 Herndon, Virginia 20170				
Cecos International	5600 Niagara Falls Boulevard	Niagara	Cecos International Inc.				
Niagara Town Finished Water Storage	7105 Lockport Road	Niagara	Town of Niagara				
Town of Niagara Active Hose Co., Inc.	3995 Lockport Road	Niagara	Town of Niagara Active Hose Co. Inc.				
Town of Niagara Active Hose Co., Inc.	6010 Lockport Road	Niagara	Town of Niagara Active Hose Co. Inc.				
Niagara Town Police Department	7105 Lockport Road	Niagara	Town of Niagara				
New York State Police Troop A, Zone 1	3609 Witmer Road	Niagara	New York State				
US Army Reserve Center	9400 Porter Road	Niagara	US Army				
Niagara Falls Air Reserve	10670 Krug Ave.	Niagara	US Army				
United Parcel Service	6410 Packard Road	Niagara	United Parcel Service				
Great Lakes Customs Brokerage	4500 Witmer Road Industrial Estates	Niagara	Great Lakes Customs Brokerage				
Niagara Falls International Airport	Niagara Falls Boulevard at Porter Road	Niagara	Niagara Frontier Transportation Authority				
Johnson Airport	7833 Lee Drive	Niagara					
Rainbow Helicopters Inc.	4425 Miller Road	Niagara	Wafer Inc.				
Ross Heliport, Ross Street Erection Corp	8555 Packard Road	Niagara	Ross Steel Erection Corp.				

O. Hazard Mitigation Profile for the Town of Niagara

Table O-1 Critical Infrastructure within the Town of Niagara

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Leaseway Motorcar Transport	4749 Witmer Road	Niagara	Leaseway Motorcar Transport Company				
International Border Inspections Meat Inspections	4575 Witmer Road	Niagara					
United States Meat Inspection	3555 Witmer Road	Niagara					
Empire Pipeline, Meter Station	Young Road	Niagara	National Fuel Gas Company				
National Fuel Gas	6250 Packard Road	Niagara	National Fuel Gas Company				

O.4 Mitigation Projects Impacting the Town of Niagara

The Town of Niagara has identified several mitigation projects to be completed. These projects are designed to improve emergency response and reduce flooding hazards within the town. These projects are described in detail in Table O-2.

Table O-2 Mitigation Projects Identified by the Town of Niagara

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Installation of backflow gates on storm sewers to prevent flooding throughout the town.	Town of Niagara		
Enhance the Emergency Operations Center within the Town Hall including but not limited to additional access to telecommunications networks, computer networks, public safety/public works communication systems and media outlet/sources.	Town of Niagara		
Hardening of critical municipal infrastructure including: town municipal complex (police, courts, and general administration); Town's fresh water storage supply; Town's highway and water/sewer departments; and Town's fresh and waste water pumping stations.	Town of Niagara		
Obtain public safety/public works interoperability communication system that includes portable communication and paging capabilities.	Town of Niagara		
Purchase of back-up generators for critical municipal infrastructure; town's community center and fire department; portable emergency lighting and intersectional traffic lights.	Town of Niagara		

O. Hazard Mitigation Profile for the Town of Niagara

Table O-2 Mitigation Projects Identified by the Town of Niagara

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Purchase of addition personal protective equipment for first responders.	Town of Niagara		
CBRNE training, monitoring and detection equipment for first responders.	Town of Niagara		
Surveillance, monitoring and detection equipment for critical infrastructure throughout the town, including Niagara Falls International Airport, local military assets and New York Power Authority.	Town of Niagara		
Obtain traffic control devices that include portable traffic lights, barricades, cones and signs including a system for storage and transportation.	Town of Niagara		

P

Hazard Mitigation Profile for the Town of Somerset

P. Hazard Mitigation Profile for the Town of Somerset

P.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Somerset. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

P.2 Community Profile

The Town of Somerset is located in the northeast corner of Niagara County and borders Lake Ontario on the north and Orleans County on the east. According to the 2000 U.S. Census the town has population of 2,865. The town contains 1,000 households and 786 families. The municipality encompasses 37.2 square miles, with a population density of 77.1 people per square mile. The median household income in the town was \$44,216, with 10.1% of the population residing below the poverty line.

The Town of Somerset contains 5 smaller communities:

- **Village of Barker** – The Village of Barker is centrally located in the town.
- **Millers** – A hamlet by the east town line at Route 269.
- **South Somerset** – A hamlet at Somerset Road and Town Line Road.
- **West Somerset** – A hamlet west of Barker on West Somerset Road at Hosmer Road.
- **Somerset** – A hamlet north of Barker on Route 18 and Route 148

The Town of Somerset was established in 1823; segregated from the Town of Hartland. Later, the Town of Newfane was formed from a portion of the original Town of Somerset. On the shore of Lake Ontario, in the northeastern part of the town sits Golden Hill State Park. The northwestern part of Barker is home to the power generating station, Kintigh Generating Station. According to the 2000 U.S. Census for the Town of Somerset the major economic sectors in the town include professional occupations, transportation, manufacturing and educational, health and social services.

P.3 Vulnerability Profile

P.3.1 Most Significant Hazards Impacting the Town of Somerset

The Town of Somerset has identified the following hazard as posing the most significant impact to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information

P. Hazard Mitigation Profile for the Town of Somerset

developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

Flooding

The Town of Somerset has experienced flooding throughout the town due to heavy rains and severe storms. The storms that cause flooding are expected annually; therefore this hazard will continue to pose a threat to the Town.

Severe Winter Storms

The Town of Somerset has experienced severe winter storms annually; in rarer incidences these storms include blizzards and ice storms. As these storms are expected several times a year this hazard will continue to impact the Town.

HazMat-Fixed Site

The Somerset AES power plant is located within the Town of Somerset. Located at the site are two 10,000 gallon tanks used for anhydrous ammonia storage. The Town is not prepared to handle any kind of a leak or spill from this site. Somerset is located in an area of limited hazard material response infrastructure and relies on the Barker Fire Department, located in the Village of Barker.

P.3.2 Critical Infrastructure within the Town of Somerset

Table P-1 Critical Infrastructure within the Town of Somerset

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Somerset-Barker WWTP	8200 Lower Lake Road	Somerset	Town of Somerset	Water Treatment Plant			
Somerset Highway Garage	8684 Haight Road	Somerset	Town of Somerset	Highway Garage			
Somerset Town Hall	8700 Haight Road	Somerset	Town of Somerset	Offices			
Somerset Railroad	7725 Lake Road	Somerset	Somerset Railroad	Railroad			
Atwater Farms	9676 Lower Lake Road	Somerset	Susan and Richard Atwater	Agriculture			
Chaffee	E 9849 Lake Road	Somerset	Dudley and Ruth Chaffee	Agriculture			
Mayer Brothers Somerset Division	7389 Lake Road	Somerset	Mayer Brothers Inc. 3300 Transit Rd West Seneca, NY 14224	Food Manufacturing			

P. Hazard Mitigation Profile for the Town of Somerset

Table P-1 Critical Infrastructure within the Town of Somerset

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
AES Somerset	7725 Lake Road	Somerset	McDermott International, Inc. 757 North Eldridge Parkway Houston, TX 77079	Power Plant			

P.4 Mitigation Projects Impacting the Town of Somerset

The Town of Somerset has identified several mitigation projects to be completed. These projects are designed to improve emergency preparedness and reduce flooding hazards within the town. These projects are described in detail in Table P-2.

Table P-2 Mitigation Projects Identified by the Town of Somerset

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Improve pumping station at wastewater treatment plant.	Town of Somerset		
Continuation of yearly ditching program to reduce flooding in the Town.	Town of Somerset	Annually	
Conduct drills of town's Emergency Action Plan.	Town of Somerset		



Hazard Mitigation Profile for the Town of Hartland

Q. Hazard Mitigation Profile for the Town of Hartland

Q.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Hartland. The hazard mitigation projects that will directly impact the town are also included here. This Appendix does not contain all of the information contributed by the town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the town which was considered in the development of that Plan.

Q.2 Community Profile

The Town of Hartland is located in eastern Niagara County, south of the Town of Somerset. The town is north of the Town of Royalton and east of the Town of Newfane. The eastern border consists of the Niagara County, Orleans County Line. According to the U.S. 2000 Census the town's population is 4,165, consisting of 1,526 households, and 1,167 families. The town has a total area of 52.3 mi², with a population density of 79.6 people per square mile. The median income for a household in the town is \$40,281, with 9.3% of the population living below the poverty line.

Located within the Town are several smaller communities:

- **Hartland** -- The hamlet of Hartland is in the south part of the town on Ridge Road. Hartland is on the north side of the East Branch Eighteen Mile Creek
- **Johnson Creek** -- A hamlet east of Hartland on Ridge Road.
- **Village of Middleport** -- A small part of the Village of Middleport is in the southeast corner of the town.
- **North Hartland** -- A hamlet in the northwest corner of the town on Hosmer Road.

The Town of Hartland was created in 1812, created from an eastern section of the Town of Cambria. Subsequently, the other towns were created from its territory.

Q.3 Vulnerability Profile

Q.3.1 Most Significant Hazards Impacting the Town of Hartland

The Town of Hartland has identified the following hazard as posing the most significant impact to the Town. Note that additional hazards have been identified as having the potential to significantly impact the Town according to the information developed in the hazard profiles found in Section 4. This complete list is shown in the Multi-jurisdictional Risk Assessment, Figure 5-1.

- Flooding
- Ice Storm
- Severe Storm

Q. Hazard Mitigation Profile for the Town of Hartland

- Severe Winter Storms
- Windstorm
- Air Contamination
- Hazardous Materials Release at a Fixed Site
- Hazardous Materials Release In Transit
- Power Failure
- Transportation Accident

Q.3.2 Critical Infrastructure within the Town of Hartland

Table Q-1 Critical Infrastructure within the Town of Hartland

Name	Address	Town	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Town of Hartland Highway Department	8940 Ridge Road	Gasport	Town of Hartland	Highway Garages, Storage Facility		6,210	\$159,400
Town of Hartland Town Hall	8942 Ridge Road	Gasport	Town of Hartland	Offices		4,872	\$171,000
Town Highway Department Pole Barn and Storage Building	8940 Ridge Road	Gasport	Town of Hartland	Storage		8,100	\$63,000
Hartland Volunteer Fire Company	8945 Ridge Road	Gasport	Hartland Volunteer Fire Company	Fire Station		13,140	\$325,200
Tri-Town Ambulance	8935 Ridge Road	Gasport	Tri-Town Ambulance	Garage		3,600	\$300,000
Shafer's Farm	3448 Stone Road	Middleport		Dairy Farm			
Cell Tower	3410 Landers Lane	Gasport	Sprint PCS	Telecommunications			
Cell Tower	3744 Hartland Road	Gasport	T-Mobile, Verizon and Cingular	Telecommunications			
Suburban Propane	2409 Checkered Tavern Road	Appleton	Suburban Propane	Chemical Industry/ Hazardous Materials			

Q.4 Mitigation Projects Impacting the Town of Hartland

The Town of Hartland has identified several mitigation projects to be completed. These projects are designed to reduce hazards within the town. These projects are described in detail in Table Q-2.

Q. Hazard Mitigation Profile for the Town of Hartland

Table Q-2 Mitigation Projects Identified by the Town of Hartland

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Seaman Road/ County Line Road Flood Mitigation Project	Town of Hartland, Highway Superintendent	7 months from project initiation to maintenance stage	\$164,030
Ditching program including mowing and cleaning throughout the Town to reduce flooding	Town of Hartland, Highway Superintendent	Ongoing from project inception	Estimated annual cost: \$100,000
Acquire new excavator for ditch maintenance operations.	Town of Hartland, Highway Superintendent	N/A	Estimated annual cost: \$40,000
Assess and upgrade emergency generators for critical municipal offices and facilities	Town of Hartland	3 months from project inception	Unknown prior to completion of assessment.
Develop a Comprehensive Emergency Management Plan for all hazard events for the Town	Town of Hartland	6 months from inception of planning process	\$15,000
Identify and assess existing capabilities (and develop plan to build additional capabilities if necessary) to respond effectively to hazardous materials incidents in transit	Town of Hartland	3 months from inception of assessment process	Unknown prior to completion of assessment.
Develop and implement a plan to inform residents and businesses throughout the Town of the steps they can take to mitigate the impacts of inevitable natural hazards such as severe storms and severe winter storms. To include dissemination of information on resources available for recovery from property damage and utility outages caused by such events.	Town of Hartland	3 months from project inception	Unknown prior to determination of modes of outreach to be utilized.
Identify and assess existing capabilities (and develop plan to build additional capabilities if necessary) to prevent and respond effectively to transportation accidents throughout the Town.	Town of Hartland	3 months from inception of assessment process	Unknown prior to completion of assessment.

R

Hazard Mitigation Profile for the Village of Youngstown

R. Hazard Mitigation Profile for the Village of Youngstown

R.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Village of Youngstown. The hazard mitigation projects that will directly impact the Village are also included here. This Appendix does not contain all of the information contributed by the Village for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the Village which was considered in the development of that Plan.

R.2 Community Profile

The Village of Youngstown was incorporated in 1854 and is located on the western edge of the Town of Porter in the northwest corner of Niagara County. The Village of Youngstown is situated along the shore of the Niagara River which is an international border with Canada. The municipality encompasses 1.4 square miles and 1,957 people reside within the Village (U.S. Census 2000). As of the U.S. 2000 Census the village contains 809 households and 564 families, with a population density of 1,687.5 people per square mile. The median household income in the village was \$48,333, with 3.9% of the population residing below the poverty line.

Each year the Village hosts the Youngstown Levels, one of the largest amateur sailing regattas in the country.

R.3 Vulnerability Profile

R.3.1 Most Significant Hazards Impacting the Village of Youngstown

The following hazards have been identified as posing the most significant impact to the Village:

- Flooding
- Severe Winter Storms
- Severe Storm
- Windstorm
- Tornado
- Air Contamination
- Hazardous Materials Incident at a Fixed Site
- Hazardous Materials Incident in Transit
- Power Failure
- Transportation Accident
- Earthquake

R. Hazard Mitigation Profile for the Village of Youngstown

R.3.2 Critical Infrastructure within the Village of Youngstown

Table R-1 Critical Infrastructure within the Village of Youngstown

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Youngstown Fire Company	625 Third Street	Youngstown	Youngstown Fire Company				
Youngstown Village Police Department	240 Lockport Street Latitude 376450 Longitude 1184750	Youngstown	Village of Youngstown				
Porter Town Hall	3265 Creek Road Latitude 386710 Longitude 1187040	Youngstown	Town of Porter				
Youngstown Village Hall	240 Lockport Street Latitude 376450 Longitude 1184750	Youngstown	Village of Youngstown				
Administration Building	4061 Creek Road	Youngstown	Lewiston Porter District School				
Senior High School	4135 Creek Road	Youngstown	Lewiston Porter District School				
Middle School	4093 Creek Road	Youngstown	Lewiston Porter District School				
Primary Education Center	4019 Creek Road	Youngstown	Lewiston Porter District School				
Intermediate Education Center	4061 Creek Road	Youngstown	Lewiston Porter District School				
Community Resource Center	4011 Creek Road	Youngstown	Lewiston Porter District School				
Porter Town Highway Department	1800 Braley Rd. Latitude 400520 Longitude 1189130	Youngstown	Town of Porter				
Youngstown Village Highway Department	355 Third St.	Youngstown	Village of Youngstown				

R.4 Mitigation Projects Impacting the Village of Youngstown

The mitigation project described in Table R-2 is designed to reduce hazards within the Village.

R. Hazard Mitigation Profile for the Village of Youngstown

Table R-2 Mitigation Projects Identified for the Village of Youngstown

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Complete a Comprehensive Emergency Management Plan to include standard operating procedures for the most significant hazards impacting the Village.	Village of Youngstown	End of 2008	\$10,000



Hazard Mitigation Profile for the Town of Wheatfield

S. Hazard Mitigation Profile for the Town of Wheatfield

S.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Wheatfield. The hazard mitigation projects that will directly impact the Town are also included here. This Appendix does not contain all of the information contributed by the Town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the Town which was considered in the development of that Plan.

S.2 Community Profile

The Town of Wheatfield was formed in 1836 and is located on the southwestern boundary of Niagara County. The Town is bordered to the south by the Niagara River. The Town has experienced somewhat rapid growth beginning in the 1980's and continuing today. The Niagara Falls International Airport is located in the northern part of the town. The municipality encompasses 28.6 square miles and 14,086 people reside within the Town (U.S. Census 2000). As of the U.S. 2000 Census the Town contains 5,305 households and 3,893 families, with a population density of 504.6 people per square mile. The median household income in the village was \$51,700, with 4.2% of the population residing below the poverty line.

The following smaller communities are located within the Town of Wheatfield:

- **Bergholz** is a hamlet in the northwestern part of the town near the airport
- **Hoffman** is a location in the eastern border of the Town
- **Nashville** is a location on Route 62 in the southeast part of the Town
- **Sawyer** is a hamlet on Route 62 adjacent to the City of North Tonawanda.
- **Shawnee** is a hamlet on Route 62.
- **St. Johnsburg** is a hamlet on Route 62 near the center of Town
- **Walmore** is a hamlet in the northwest part of the Town on Lockport Road.

S.3 Vulnerability Profile

S.3.1 Most Significant Hazards Impacting the Town of Wheatfield

The following hazards have been identified as posing the most significant impact to the Town:

- Flooding
- Ice Jam
- Severe Winter Storms
- Severe Storm

S. Hazard Mitigation Profile for the Town of Wheatfield

- Hazardous Materials Incident at a Fixed Site
- Hazardous Materials Incident in Transit
- Human Epidemic
- Power Failure
- Terrorism
- Transportation Accident
- Earthquake

S.3.2 Critical Infrastructure within the Town of Wheatfield

Table S-1 Critical Infrastructure within the Town of Wheatfield

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
10 Cell Towers Located Throughout the Town	See Map Number 9 in Town of Wheatfield Comprehensive Plan.						
Frontier Volunteer Fire Company - Hall 2	2179 River Road	Niagara Falls, 14304	Frontier Volunteer Fire Company				
Frontier Volunteer Fire Company - Hall 1	2176 Liberty Drive Latitude 406760 Longitude 119870	Niagara Falls, 14304	Frontier Volunteer Fire Company				
Adams Fire Company	7113 Nash Road Latitude 424700 Longitude 1122790	North Tonawanda, 14120	Adams Fire Company				
Shawnee Fire Company	3747 Lockport Road	Sanborn, 14132	Shawnee Fire Company				
Bergholz Fire Company	2470 Niagara Road	Niagara Falls, 14304	Bergholz Fire Company				
St. Johnsbury Fire Company	7165 Ward Road Latitude 418480 Longitude 1121510	North Tonawanda, 14120	St. Johnsbury Fire Company				
Tri-Community Ambulance	6276 Ward Road	Sanborn, 14132	Tri- Community Ambulance				
Summit Healthplex	6934 Williams Road	Niagara Falls, 14304	Summit Healthplex				
Crestwood Health Care Center	2600 Niagara Falls Boulevard	Niagara Falls, 14304					
Northgate Health Care Facility	7264 Nash Road	North Tonawanda, 14120					
Alterra Health Care	6751 Nash Road	North Tonawanda, 14120					

S. Hazard Mitigation Profile for the Town of Wheatfield

Table S-1 Critical Infrastructure within the Town of Wheatfield

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Wheatfield Town Hall	2800 Church Road Latitude 416730 Longitude 1123990	North Tonawanda, 14120	Town of Wheatfield				
Wheatfield Community Center	2790 Church Road	North Tonawanda, 14120	Town of Wheatfield				
Niagara County Water Authority	7227 Williams Road	Niagara Falls, 14304					
Oppenheim County Park and Zoo	2713 Niagara Falls Boulevard	Wheatfield, 14304	Niagara County				
Errick Road Elementary School	6839 Errick Road	Wheatfield	Niagara Wheatfield School District				
Niagara Wheatfield High School	2292 Saunders Settlement Road	Sanborn 14132	Niagara Wheatfield School District				
Edward Town Middle School	2292 Saunders Settlement Road	Sanborn 14132	Niagara Wheatfield School District				
Colonial Village Elementary	1456 Saunders Settlement Road	Niagara Falls 14305	Niagara Wheatfield School District				
Tuscarora School	2015 Mount Hope Road	Lewiston, 14092	Tuscarora Nation				
West Street Elementary	5700 West Street	Sanborn, 14132	Niagara Wheatfield School District				
Niagara County Charter School	2077 Lockport Road	Niagara Falls					
Wheatfield Christian Academy	2334 Lockport Road	Sanborn, 14132					
Holy Ghost Lutheran School	6630 Luther Street	Niagara Falls, 14304					
St. Peter's Evan Lutheran School	6168 Walmore Road	Sanborn, 14132					
St. John Lutheran School	6950 Ward Road	North Tonawanda, 14120					
St. John De Lasalle School	8477 Buffalo Avenue	Niagara Falls, 14304					

S. Hazard Mitigation Profile for the Town of Wheatfield

Table S-1 Critical Infrastructure within the Town of Wheatfield

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Oxbow Power	7341 Shawnee Road Latitude 433770 Longitude 1117610	Wheatfield	Oxbow Corporation 1601 Forum Place, Suite 1400 West Palm Beach, FL 33401				
Wheatfield Gardens	7341 Shawnee Road Latitude 433770 Longitude 1117610	Wheatfield	Wheatfield Gardens 2921 Niagara Falls Boulevard, North Tonawanda, NY 14120				
Smurfit-Stone Container	7393 Shawnee Road Latitude 433340 Longitude 1116810	Wheatfield	Smurfit-Stone Container Corporation 150 N. Michigan Avenue. Chicago, IL 60601				
Summit Park Mall	6929 Williams Road	Niagara Falls, 14304					
Niagara Falls Air Reserve	10670 Krug Ave	Niagara Falls	US ARMY				
Niagara Falls International Airport	10670 Krug Ave.	Niagara Falls	Niagara Frontier Transportation Authority 181 Ellicott Street · Buffalo, New York 14203				

S.4 Mitigation Projects Impacting the Town of Wheatfield

The mitigation projects described in Table S-2 are designed to reduce hazards within the Town.

S. Hazard Mitigation Profile for the Town of Wheatfield

Table S-2 Mitigation Projects Identified for the Town of Wheatfield

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Complete a Comprehensive Emergency Management Plan to include standard operating procedures for the most significant hazards impacting the Town.	Town of Wheatfield	End of 2008	\$10,000
Develop standard operating procedures to assist special needs populations, particularly senior populations, during an epidemic or other public health emergency.	Town of Wheatfield with support from the County Health Department and private senior housing developers	End of 2009	\$5,000



Hazard Mitigation Profile for the Town of Newfane

T. Hazard Mitigation Profile for the Town of Newfane

T.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Newfane. The hazard mitigation projects that will directly impact the Town are also included here. This Appendix does not contain all of the information contributed by the Town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the Town which was considered in the development of that Plan.

T.2 Community Profile

The Town of Newfane was established in 1824 and is located in the north-central part of Niagara County. Newfane is bordered to the north by Lake Ontario. Eighteen Mile Creek flows northward through the Town to Lake Ontario. The municipality encompasses 53.5 square miles and 9,657 people reside within the Town (U.S. Census 2000). As of the U.S. 2000 Census the Town contains 3,597 households and 2,633 families, with a population density of 186.3 people per square mile. The median household income in the village was \$41,438, with 6.8% of the population residing below the poverty line.

The following smaller communities are located within the Town:

- **Appleton** is a hamlet in the northeastern corner of the town.
- **Burt** is a hamlet along Route 78.
- **Coomer** is a location near the western town line.
- **Coomer Station** is a location in northwest Newfane
- **Corwin** is a hamlet between Newfane and the Wrights Corners on Route 78
- **Ridgewood** is a hamlet in the southeast on Route 104
- **Hamlet of Newfane** is located on Route 78 in the center of town on the east bank of the creek.
- **Olcott** is a hamlet with a small boat harbor on Lake Ontario
- **Woodland Heights** is a lakeside hamlet
- **Wright's Corners** is a hamlet on the southern town line, partially located in the Town of Lockport.

T. Hazard Mitigation Profile for the Town of Newfane

T.3 Vulnerability Profile

T.3.1 Most Significant Hazards Impacting the Town of Newfane

The following hazards have been identified as posing the most significant impact to the Town:

- Flooding
- Landslide
- Severe Winter Storms
- Severe Storm
- Dam Failure
- Hazardous Materials Incident at a Fixed Site
- Power Failure
- Transportation Accident

T.3.2 Critical Infrastructure within the Town of Newfane

Table T-1 Critical Infrastructure within the Town of Newfane

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Newfane Town Finished Water Storage	Transit Road	Newfane					
Water Tower	Lockport-Olcott Road (Rt. 78)	Newfane	Town of Newfane				
Water Tower	West Lake Road (Route 18)	Olcott	Town of Newfane				
Newfane Intercommunity Hospital	2600 William Street	Newfane					
Newfane Health Facility	2709 Transit Road	Newfane					
Miller Hose Volunteer Fire Company	2737 Main Street Latitude 466910 Longitude 1196050	Newfane	Miller Hose Volunteer Fire company				
Olcott Fire Company	1691 Lockport- Olcott Road	Olcott, 14126	Town of Newfane				
Newfane Town Hall	2896 Transit Road	Newfane	Town of Newfane				
Newfane Senior High School	1 Panther Drive	Newfane	Newfane Central School				
Newfane Middle School	2700 Transit Road Latitude 469280 Longitude 1197030	Newfane	Newfane Central School				
Newfane Intermediate School	6191 East Avenue	Newfane	Newfane Central School				

T. Hazard Mitigation Profile for the Town of Newfane

Table T-1 Critical Infrastructure within the Town of Newfane

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Newfane Elementary School	2909 Transit Road	Newfane	Newfane Central School				
Newfane Early Childhood Center	6048 Godfrey Road	Newfane	Newfane Central School				
Newfane Post Office	6000 Edwards Avenue	Newfane	United States				
Olcott Post Office	1617 Lockport-Olcott Road	Olcott	United States				
Appleton Post Office	1924 Hess Road	Appleton	United States				
Newfane Town Highway Department	2896 Transit Road	Newfane	Town of Newfane				

T.4 Mitigation Projects Impacting the Town of Newfane.

The mitigation project described in Table T-2 is designed to reduce hazards within the Town.

Table T-2 Mitigation Projects Identified for the Town of Newfane

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Complete a Comprehensive Emergency Management Plan to include standard operating procedures for the most significant hazards impacting the Town.	Town of Newfane	End of 2008	\$10,000



Hazard Mitigation Profile for the Town of Lewiston

U. Hazard Mitigation Profile for the Town of Lewiston

U.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Lewiston. The hazard mitigation projects that will directly impact the Town are also included here. This Appendix does not contain all of the information contributed by the Town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the Town which was considered in the development of that Plan.

U.2 Community Profile

The Town of Lewiston was formed in 1823 and is located on the western edge of Niagara County. Lewiston is bordered to the west by the Niagara River which is an international border with Canada. The Town is situated just north of the Niagara Escarpment. The Niagara Power Reservoir is located within the Town. The municipality encompasses 41 square miles and 16,257 people reside within the Town (U.S. Census 2000). As of the U.S. 2000 Census the Town contains 5,882 households and 4,252 families, with a population density of 436.2 people per square mile. The median household income in the Town was \$50,819, with 5.8% of the population residing below the poverty line.

The following smaller communities are located within the Town:

- **Bonds Lake County Park** is a park in the northeast corner of the Town
- **Colonial Village** is a hamlet near the southern town line on Saunders Settlement Road
- **Devil's Hole State Park** is located in the southwest corner of the town
- **Dickersonville** is a hamlet in the northeastern part of the Town on Ridge Road
- **Earl W. Brydges Artpark State Park** is located on the eastern edge of the Town.
- **Falcon Manor** is located on the south town line, east of Colonial Village
- **Village of Lewiston** is located in the western part of the Town.
- **Model City** is a hamlet located on Route 104
- **Pekin** is a hamlet on the eastern town line.
- **Reservoir State Park** is located on the south shore of the reservoir and Route 265.

U. Hazard Mitigation Profile for the Town of Lewiston

- **Sanborn** is a hamlet located in the southeast corner of the Town.
- **Tuscarora Reservation** is a reservation of one of the members of the Iroquois confederacy, located east of the reservoir.

U.3 Vulnerability Profile

U.3.1 Most Significant Hazards Impacting the Town of Lewiston

The following hazards have been identified as posing the most significant impact to the Town:

- Power Failure
- Transportation Accident
- Flood
- Landslide
- Severe Storm
- Severe Winter Storm
- Wind Storm
- Dam Failure
- Hazardous Materials Incident in Transit
- Hazardous Materials Incident at a Fixed Site
- Earthquake

U.3.2 Critical Infrastructure within the Town of Lewiston

Table U-1 Critical Infrastructure within the Town of Lewiston

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Lewiston- Queenston Bridge	1451 Niagara River Parkway	Queenston Heights, Niagara-on- the-Lake, Ontario Canada					
St. Mary's Heliport	5300 Military Road Latitude 380070 Longitude 1149550	Lewiston	ROSS STEEL ERECTION CORP 8555 Packard Road Niagara Falls				
Sacred Heart Villa School	5269 Lewiston Road	Lewiston					
St. Peter's Roman Catholic School	140 North 6th Street	Lewiston					

U. Hazard Mitigation Profile for the Town of Lewiston

Table U-1 Critical Infrastructure within the Town of Lewiston

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Multinat Inc. DBA=WTOR Radio	Birach Broadcasting Company 21700 Northwestern Hwy., Tower 14 ; Suite 1190 Southfield, MI 48075	Lewiston					
New York Power Authority	5777 Lewiston Road	Lewiston	New York Power Authority Mailroom - 10- B 123 Main Street White Plains, N.Y. 10601- 3170				
Niagara Falls Storage Site	1397 Pletcher Road Latitude 393170 Longitude 1172080	Lewiston	Bechtel National Inc. 50 Beale StreetSan Francisco, CA 94105-1895				
Modern Disposal	Pletcher Road and Harold Road	Lewiston	4746 Model City Road, Model City, NY 14107				
Lewiston Town Finished Water Storage	PASNY Tank Upper Mountain Road	Lewiston	County of Niagara				
Lewiston Waste Water Pollution Control Center	501 Pletcher Road	Lewiston	Town of Lewiston				
Mount St. Mary's Hospital and Health Center	5300 Military Road Latitude 380070 Longitude 1149550	Lewiston	Niagara Seton Corp.				
Lewiston Senior Center	Pletcher Road and River Road	Lewiston					
Lewiston Fire Company #1, Inc.	145 North Sixth Street Latitude 377980 Longitude 1156620	Lewiston	Lewiston #1 Fire company				
Upper Mountain Fire Company	839 Moyer Road Latitude 384880 Longitude 1150180	Lewiston	Upper Mountain Fire Company				

U. Hazard Mitigation Profile for the Town of Lewiston

Table U-1 Critical Infrastructure within the Town of Lewiston

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Lewiston Town Police Department	145 North Fourth Street Latitude 376870 Longitude 156840	Lewiston	Town of Lewiston				
Lewiston Fire Company #2	1705 Saunders Settlement Road	Niagara Falls	Lewiston #2 Fire Company				
Sanborn Fire Company	5811 Buffalo Street	Sanborn	Sanborn Fire Company				
Lewiston Town Hall	1375 Ridge Road Latitude 382940 Longitude 1158860	Lewiston	Town of Lewiston				
Lewiston Village Hall	145 N. Fourth Street Latitude 376570 Longitude 11586840	Lewiston	Town of Lewiston				
Tuscarora Indian Elementary School	2015 Mount Hope Road	Lewiston	Niagara Wheatfield School District				
Lewiston Porter Central School	4061 Creek Road	Youngstown, 14174					
Niagara Wheatfield High School	2292 Saunders Settlement Road	Sanborn, 14132					
Stella Niagara	4421 Lower River Road	Stella Niagara, 14144					
West Street Elementary School	5700 West Street	Sanborn, 14132					
Colonial Village Elementary School	1456 Saunders Settlement Road	Niagara Falls, 14305					
Niagara University	5795 Lewiston Road	Lewiston, 14092					
Lewiston Town Highway Department	1445 Swan Rd. Latitude 394430 Longitude 1168090	Lewiston	Town of Lewiston				
Lewiston Village Highway Department	892 Seneca St.	Lewiston	Village of Lewiston				

U.4 Mitigation Projects Impacting the Town of Lewiston

The mitigation project described in Table U-2 is designed to reduce hazards within the Town.

U. Hazard Mitigation Profile for the Town of Lewiston

Table U-2 Mitigation Projects Identified for the Town of Lewiston

Description of Project or Initiative	Parties		Projected Timeline for Completion	Estimated Cost
	Responsible for Implementation			
Complete a Comprehensive Emergency Management Plan to include standard operating procedures for the most significant hazards impacting the Town.	Town of Lewiston		End of 2008	\$10,000



Hazard Mitigation Profile for the Town of Porter

V. Hazard Mitigation Profile for the Town of Porter

V.1 Introduction

This Appendix focuses on the characteristics and vulnerabilities identified for the Town of Porter. The hazard mitigation projects that will directly impact the Town are also included here. This Appendix does not contain all of the information contributed by the Town for the development of the Niagara County Multi-jurisdictional Hazard Mitigation Plan. Rather it presents information unique to the Town which was considered in the development of that Plan.

V.2 Community Profile

The Town of Porter was formed in 1812 and is located in the north western corner of Niagara County. Lewiston is bordered to the west by the Niagara River and to the north by Lack Ontario, forming the international border with Canada. The Town hosts Fort Niagara State Park which is located at the mouth of the Niagara River and contains the historic colonial fortification, Fort Niagara. Four Mile Creek State Park is also found within the Town along the shore of Lake Ontario. Four Mile Creek itself flows northward through the west side of the town where it empties into Lake Ontario. The Ransomville Speedway is located in the Town. The municipality encompasses 37.7 square miles and 6,920 people reside within the Town (U.S. Census 2000). As of the U.S. 2000 Census the Town contains 2,616 households and 1,935 families, with a population density of 208.3 people per square mile. The median household income in the Town was \$50,425 with 4.1% of the population residing below the poverty line.

The following smaller communities are located within the Town:

- **Ransomville** – A hamlet in the southeast corner of the town on Rt. 93
- **Village of Youngstown** - Located at the town's western border.

V.3 Vulnerability Profile

V.3.1 Most Significant Hazards Impacting the Town of Porter

The following hazards have been identified as posing the most significant impact to the Town:

- Power Failure
- Transportation Accident
- Flood
- Severe Storm
- Severe Winter Storm
- Terrorism

V. Hazard Mitigation Profile for the Town of Porter

V.3.2 Critical Infrastructure within the Town of Porter

Table V-1 Critical Infrastructure within the Town of Porter

Name	Address	Town/ Village	Owner	Usage	Occupancy	Square Footage	Estimated Monetary Value
Water Storage Tank	Balmer Road	Youngstown	Town of Porter	Water Storage	N/A	N/A	
Water Storage Tank	Rt. 93 & Ransomville Road	Ransomville	Town Porter	Water Storage	N/A	N/A	
Town Hall	3265 Creek Road	Youngstown	Town of Porter	Government			
Town Highway Garage	1800 Braley	Youngstown	Town of Porter	Government			
Ransomville Fire Hall	2521 Youngstown-Lockport Road	Ransomville	Town of Porter	Emergency Services			
Stevenson Elementary School	3745 Ransomville Road	Ransomville		Government: School			
Heritage Nursing Home	3509 Ransomville Road	Ransomville		Emergency Services			
Chemical Waste Management	1550 Balmer Road	Youngstown		Chemical Industry/ HazMat			
Cellular Tower	Balmer Road	Youngstown		Telecommunications			
Free Methodist Day School	Ransomville Road	Ransomville		Government: School			
Swain Road Sewer Pump Station	200 Swain Road	Youngstown		Water: Waste Water			
Fort Niagara Beach		Youngstown	New York State	Government			
Pump Station #3	1006 Woodcliff Drive	Youngstown	Town of Porter	Water: Waste Water			
Lake Road #1	299 Lake Road	Youngstown	Town of Porter	Water: Waste Water			
Lake Road #2	766 Lake Road	Youngstown	Town of Porter	Water: Waste Water			
Pump Station #2	950 Woodcliff Drive	Youngstown	Town of Porter	Water: Waste Water			
Pump Station #1	945 Lake Road	Youngstown	Town of Porter	Water: Waste Water			

Mitigation Projects Impacting the Town of Porter

The Town of Porter has identified several mitigation projects that are crucial to minimize potential hazards. The projects identified are listed in detail in Table V-2.

Table V-2 Mitigation Projects Identified by the Town of Porter

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Increase security of Town infrastructure by installing security fencing at water tanks.	Town of Porter		

V. Hazard Mitigation Profile for the Town of Porter

Table V-2 Mitigation Projects Identified by the Town of Porter

Description of Project or Initiative	Parties Responsible for Implementation	Projected Timeline for Completion	Estimated Cost
Clean all drainage ditches to mitigate against impacts from flooding.	Town of Porter		
Clean 4 Mile and 12 Mile Creeks	Town of Porter		
Enhance continuity of government during power outages by installing an emergency generator at the Town Hall	Town of Porter		
Enhance preparedness for all chemical hazards by purchasing appropriate personal protective equipment of first responders	Town of Porter		
Increase security of Town infrastructure by installing security cameras at highway garages.	Town of Porter		



Niagara County HAZNY Workshop Results

W. Niagara County HAZNY Workshop Results

Overall Hazards Ranking		
Hazard	Rating Score	Alternative Rating Scores
Terrorism	400.00*	364.0 – Indicating that terrorism occurs with regular frequency 328.0 – Indicating that terrorism is infrequent. 292.0 - Indicating that terrorism is rare.
Utility Failure	334.8	Results not modified.
Winter Storm (Severe)	334.8	
Hazmat in Transit	333.2	
Transportation Accident	315.5	
Explosion	313.2	
Severe Storm	306.2	
Hazmat Fixed Site	304.8	
Ice Storm	301.8	
Cyber Failure	301.5	
Earthquake	301.0	
Oil Spill	288.8	
Ice Jam	268.8	
Tornado	262.8	
Dam Failure	257.7	
Air Contamination	257.2	
Civil Unrest	251.5	↓
Water Supply Contamination	234.2	Modifying the answer in the "Impacts" category caused the rank to rise from 217.5 to 234.2. Moves up one place in the overall rank.
Human Epidemic	229.5	Rank remains unmodified however, hazard definition modified to include only human epidemics.
Agricultural Epidemic	229.5	New hazard not originally ranked.
Radiological in Transit	191.2	Results not modified
Drought	194.2	↓
Fuel Shortage	151.2	↓

* Note that 400.00 is the highest score allowed by the HAZNY program.

Results of the analysis:

- The analysis showed that the following hazards are the **most frequent** hazards in Niagara County:
 - Winter Storm (High)
 - Terrorism (High)
 - Explosion (Moderately High)
 - Air Contamination (Moderately High)
- The analysis showed that the following hazards could cause the **greatest loss of life** in Niagara County:
 - Transportation Accident (Moderately High)
 - Terrorism (High)
 - Epidemic (Moderately Low)
 - Earthquake (Moderately High)
 - Dam Failure ((Moderately High)
- The analysis showed that the following hazards could strike Niagara County with **little or no warning**:
 - Winter Storm (High)
 - Transportation Accident (Moderately High)
 - Terrorism (High)
 - Radiological in Transit (Moderately Low)
 - Ice Storm (Moderately High)
 - Hazmat in Transit (High)
 - Epidemic (Moderately Low)
 - Air Contamination (Moderately High)



Major Disaster Declarations and Emergency Declarations and Emergency Declarations Including Niagara County Issued Within the Last 10 Years

***X. Major Disaster Declarations and Emergency Declarations Including
Niagara County Issued Within the Last 10 Years***

Major Disaster Declarations			
Year	Date	Disaster Type	Federal Disaster #
2005	April 19	Severe Storms and Flooding	1589
2004	October 1	Severe Storms and Flooding	1564
2001	September 11	Terrorist Attack	1391
2000	July 21	Severe Storms	1335
1998	January 10	Severe Winter Storms	1196

Major Emergency Declarations			
Year	Date	Disaster Type	Federal Disaster #
2005	September 30	Hurricane Katrina Evacuation	3262
2003	August 23	Power Outage	3186
2002	January 1	Snowstorm	3170
2000	October 11	Virus Threat	3155
1999	January 15	Winter Storm	3136



Critical Infrastructure Database

Appendix Y Critical Infrastructure Database

ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
1	Agriculture	Atwater Farms	9676 Lower Lake Road	Barker	0.000	0.000	0.000	0.000
2	Agriculture	Chaffee	E 9849 Lake Road	Barker	0.000	0.000	0.000	0.000
3	Chemical Industry/ Hazardous Mat	AES Somerset	7725 Lake Road	Barker	0.000	0.000	0.000	0.000
5	Chemical Industry/ Hazardous Mat	Air Products and Chemicals	200 Upper Mtn. Road, Bldg #7, Plant #2	Lockport	0.000	0.000	0.000	0.000
6	Chemical Industry/ Hazardous Mat	Allvac	695 Ohio Street	Lockport	0.000	0.000	0.000	0.000
11	Chemical Industry/ Hazardous Mat	Amerigas	6109 Robinson Road	Lockport	0.000	0.000	0.000	0.000
12	Chemical Industry/ Hazardous Mat	An-Cor Industrial Plastics	100 Melody Lane	North Tonawanda	0.000	0.000	0.000	0.000
14	Chemical Industry/ Hazardous Mat	Atlantic Research Corp.	6686 Walmore Road	Niagara Falls	0.000	0.000	0.000	0.000
15	Chemical Industry/ Hazardous Mat	Barden-Robeson Corp.	18 Kelly Ave	Middleport	0.000	0.000	0.000	0.000
18	Chemical Industry/ Hazardous Mat	Buffalo Paperboard Corp.	470 Ohio Street	Lockport	0.000	0.000	0.000	0.000
20	Chemical Industry/ Hazardous Mat	Candlelight Cabinetry Inc.	55 Frost Street	Lockport	0.000	0.000	0.000	0.000
21	Chemical Industry/ Hazardous Mat	Candlelight Cabinetry Inc.	Park Avenue	Lockport	0.000	0.000	0.000	0.000
29	Chemical Industry/ Hazardous Mat	Delphi Harrison Thermal Sytems	200 Upper Mountain Road	Lockport	0.000	0.000	0.000	0.000
32	Chemical Industry/ Hazardous Mat	Durez Development Center	673 Walck Road	North Tonawanda	0.000	0.000	0.000	0.000
35	Chemical Industry/ Hazardous Mat	ESAB Weld and Cutting Products	747 47th Street	Niagara Falls	0.000	0.000	0.000	0.000
42	Chemical Industry/ Hazardous Mat	FMC Corp, Agricultural Chemical Group	100 Niagara Street	Middleport	0.000	0.000	0.000	0.000
43	Chemical Industry/ Hazardous Mat	Globe Metallurgical, Inc.	3807 Highland Avenue	Niagara Falls	0.000	0.000	0.000	0.000
45	Chemical Industry/ Hazardous Mat	International Fiber Corp.	50 Bridge Street	North Tonawanda	0.000	0.000	0.000	0.000
46	Chemical Industry/ Hazardous Mat	Isochem	1 North Transit Road	Lockport	0.000	0.000	0.000	0.000
47	Chemical Industry/ Hazardous Mat	Jamestown Container Division	85 Grand Street	Lockport	0.000	0.000	0.000	0.000
49	Chemical Industry/ Hazardous Mat	JH Products Inc.	520 Mill Street	Lockport	0.000	0.000	0.000	0.000
57	Chemical Industry/ Hazardous Mat	Laidlaw Transit Inc.	455 Niagara Falls Blvd.	Niagara Falls	0.000	0.000	0.000	0.000
58	Chemical Industry/ Hazardous Mat	Larfarge Quarry	400 Hinman Road	Lockport	0.000	0.000	0.000	0.000
59	Chemical Industry/ Hazardous Mat	Lockheed Martin Corp	2221 Niagara Falls Blvd.	Niagara Falls	0.000	0.000	0.000	0.000
60	Chemical Industry/ Hazardous Mat	Middleport Cold Storage Inc.	10 Kelly Avenue	Middleport	0.000	0.000	0.000	0.000
61	Chemical Industry/ Hazardous Mat	Milward Alloys Inc.	500 Mill Street	Lockport	0.000	0.000	0.000	0.000
63	Chemical Industry/ Hazardous Mat	Modern Disposal	Pletcher Road and Harold Road	Lewiston	0.000	0.000	0.000	0.000
64	Chemical Industry/ Hazardous Mat	M-R-S Plating Inc.	310 Park Avenue	Lockport	0.000	0.000	0.000	0.000
68	Chemical Industry/ Hazardous Mat	Niagara Fiberboard Inc.	10 Stevens Street	Lockport	0.000	0.000	0.000	0.000
71	Chemical Industry/ Hazardous Mat	NYS Canal Corp.	4 Mill Street	Lockport	0.000	0.000	0.000	0.000
76	Chemical Industry/ Hazardous Mat	Reid Petroleum	100 West Genesee Street	Lockport	0.000	0.000	0.000	0.000
79	Chemical Industry/ Hazardous Mat	Sherwood Division of Harsco	120 Church Street	Lockport	0.000	0.000	0.000	0.000
83	Chemical Industry/ Hazardous Mat	Superior Lubricants Co. Inc.	137 Ward Road	North Tonawanda	0.000	0.000	0.000	0.000
84	Chemical Industry/ Hazardous Mat	Thrifty Oil and Propane	63 Richfield Street	Lockport	0.000	0.000	0.000	0.000
85	Chemical Industry/ Hazardous Mat	Twin Lake Chemical Inc.	520 Mill Street	Lockport	0.000	0.000	0.000	0.000
89	Chemical Industry/ Hazardous Mat	Vanchlor Inc.	515 West Jackson Street	Lockport	0.000	0.000	0.000	0.000
91	Chemical Industry/ Hazardous Mat	WH Rhinehart Inc.	18 Orchard Street	Middleport	0.000	0.000	0.000	0.000
98	Emergency Services	Barker Fire Company	1660 Quaker Road	Barker	0.000	0.000	0.000	0.000
99	Emergency Services	Barker Village Police Department	8708 Main Street	Barker	0.000	0.000	0.000	0.000
100	Emergency Services	Bergholz Fire Company	2470 Niagara Road	Niagara Falls, 14304	0.000	0.000	0.000	0.000
102	Emergency Services	Cambria Fire Company	4631 Cambria Wilson Rd	Cambria	0.000	0.000	0.000	0.000
103	Emergency Services	Cambria Volunteer Fire Company, Inc.	4631 Cambria-Wilson Road	Lockport	0.000	0.000	0.000	0.000
104	Emergency Services	City of Lockport Fire Department	Municipal Building	Lockport	0.000	0.000	0.000	0.000
107	Emergency Services	Frontier Volunteer Fire Company - Hall 2	2179 River Road	Niagara Falls, 14304	0.000	0.000	0.000	0.000
108	Emergency Services	Gasport Chemical Hose Co. Fire Department	8408 State St.	Gasport	0.000	0.000	0.000	0.000
109	Emergency Services	Hartland fire Company	8945 Ridge Road	Gasport	0.000	0.000	0.000	0.000
110	Emergency Services	Lewiston #2 Fire Company	1705 Saunders-Settlement Road	Niagara Falls	0.000	0.000	0.000	0.000
112	Emergency Services	Lewiston Fire Company #2	1705 Saunders Settlement Road	Niagara Falls	0.000	0.000	0.000	0.000
114	Emergency Services	Lockport City Police Department	One Locks Plaza	Lockport	0.000	0.000	0.000	0.000
116	Emergency Services	Middleport Fire Company	28 Main Street	Middleport	0.000	0.000	0.000	0.000
117	Emergency Services	Middleport Village Police Department	22 Main Street	Middleport	0.000	0.000	0.000	0.000
120	Emergency Services	New York State Police Troop A Zone 2	6566 Dysinger Road	Lockport	0.000	0.000	0.000	0.000
121	Emergency Services	Niagara County Jail	5526 Niagara Street Exchange	Lockport	0.000	0.000	0.000	0.000
123	Emergency Services	Niagara County Sheriff's Department	5526 Niagara Street Exchange	Lockport	0.000	0.000	0.000	0.000
132	Emergency Services	Olcott Fire Company	1691 Lockport-Olcott Road	Olcott, 14126	0.000	0.000	0.000	0.000

Appendix Y Critical Infrastructure Database

ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
133	Emergency Services	Pekin Fire Company, Inc.	3024 Upper Mountain Road	Cambria	0.000	0.000	0.000	0.000
134	Emergency Services	Rapids Volunteer Fire Company	7195 Plank Road	Lockport	0.000	0.000	0.000	0.000
135	Emergency Services	Sanborn Fire Company	5811 Buffalo Street	Sanborn	0.000	0.000	0.000	0.000
136	Emergency Services	Shawnee Fire Company	3747 Lockport Road	Sanborn, 14132	0.000	0.000	0.000	0.000
137	Emergency Services	South Lockport Fire Company	5666 South Transit Road	Lockport	0.000	0.000	0.000	0.000
140	Emergency Services	Terry's Corners Fire Company	7801 Chestnut Ridge Rd	Gasport	0.000	0.000	0.000	0.000
144	Emergency Services	Wendelville Fire Hall #2	Main Road	Pendleton	0.000	0.000	0.000	0.000
145	Emergency Services	Wendelville Fire Hall #3	East Canal Road	Pendleton	0.000	0.000	0.000	0.000
148	Emergency Services	Wrights Corners Fire Company, Hall 3	7103 Rochester Road	Lockport	0.000	0.000	0.000	0.000
150	Emergency Services	Youngstown Fire Company	625 Third Street	Youngstown	0.000	0.000	0.000	0.000
154	Energy and Utilities	High Transmission Switching Station	435 Robinson St.	North Tonawanda	0.000	0.000	0.000	0.000
158	Energy and Utilities	New York Power Authority	5777 Lewiston Road	Lewiston	0.000	0.000	0.000	0.000
159	Energy and Utilities	New York Power Authority	5777 Lewiston Road	Lewiston	0.000	0.000	0.000	0.000
161	Energy and Utilities	Niagara Mohawk Power Corp.	Hinman Road	Lockport	0.000	0.000	0.000	0.000
162	Energy and Utilities	NYS Electric & Gas Corp.	6544 Lincoln Avenue	Lockport	0.000	0.000	0.000	0.000
163	Energy and Utilities	Power Generating Plant	1070 Erie Ave	North Tonawanda	0.000	0.000	0.000	0.000
164	Energy and Utilities	VPS Empire State, Inc., Niagara Falls Generat	300 Frontier Ave.	Niagara Falls	0.000	0.000	0.000	0.000
166	Food	Barker Storage LLC.	East Ave	Barker	0.000	0.000	0.000	0.000
168	Food	Mayer Brothers Somerset Division	7389 Lake Road	Barker	0.000	0.000	0.000	0.000
170	Food	Shafer's Farm	3448 Stone Road	Middleport	0.000	0.000	0.000	0.000
172	Government	Barker Free Library	8708 Main Street	Barker	0.000	0.000	0.000	0.000
173	Government	Barker Highway Department	8708 Main Street	Barker	0.000	0.000	0.000	0.000
174	Government	Barker Village Hall	8708 Main Street	Barker	0.000	0.000	0.000	0.000
176	Government	Civil Defense Building	139 Niagara Street	Lockport	0.000	0.000	0.000	0.000
180	Government	Health Department	5467 Upper Mountain Road	Lockport	0.000	0.000	0.000	0.000
185	Government	Lewiston Village Highway Department	892 Seneca St.	Lewiston	0.000	0.000	0.000	0.000
186	Government	Lockport City Highway Department	255 s. Niagara St.	Lockport	0.000	0.000	0.000	0.000
188	Government	Lockport Town Hall	6560 Dysinger Road	Lockport	0.000	0.000	0.000	0.000
189	Government	Middleport DPW Garage	24 Main Street	Middleport	0.000	0.000	0.000	0.000
190	Government	Middleport Village Hall	24 Main Street	Middleport	0.000	0.000	0.000	0.000
191	Government	Newfane Town Hall	2896 Transit Road	Newfane	0.000	0.000	0.000	0.000
192	Government	Newfane Town Highway Department	2896 Transit Road	Newfane	0.000	0.000	0.000	0.000
194	Government	Niagara County Highway Department	255 s. Niagara St.	Lockport	0.000	0.000	0.000	0.000
196	Government	Niagara Falls City Highway Department'	New Road Corporation Yard	Niagara Falls	0.000	0.000	0.000	0.000
203	Government	North Tonawanda City Public Works Departm	758 Erie Ave.	North Tonawanda	0.000	0.000	0.000	0.000
205	Government	Oppenheim County Park and Zoo	2713 Niagara Falls Boulevard	Wheatfield, 14304	0.000	0.000	0.000	0.000
206	Government	Parks Department	314 Davison Road	Lockport	0.000	0.000	0.000	0.000
207	Government	Pendleton Town Garage	6568 Campbell Blvd.	Pendleton	0.000	0.000	0.000	0.000
208	Government	Pendleton Town Hall	6570 Campbell Blvd.	Pendleton	0.000	0.000	0.000	0.000
214	Government	Royalton Town Hall	5316 Royalton Center	Royalton	0.000	0.000	0.000	0.000
215	Government	Royalton Town Highway Department	5317 Royalton Center	Royalton	0.000	0.000	0.000	0.000
216	Government	Social Services	100 Davison Road	Lockport	0.000	0.000	0.000	0.000
217	Government	Social Services	22 East Avenue	Lockport	0.000	0.000	0.000	0.000
218	Government	Somerset Highway Garage	8684 Haight Road	Barker, 14012	0.000	0.000	0.000	0.000
221	Government	Summit Park Mall	6929 Williams Road	Niagara Falls, 14304	0.000	0.000	0.000	0.000
222	Government	Town of Cambria Municipal Building	4164 Upper Mountain Road	Cambria	0.000	0.000	0.000	0.000
223	Government	Town of Cambria Town Hall	4160 Upper Mountain Road	Cambria	0.000	0.000	0.000	0.000
226	Government	Wheatfield Community Center	2790 Church Road	North Tonawanda, 14120	0.000	0.000	0.000	0.000
230	Government	Wilson Town Highway Department	3356 Wilson Cambria Road	Wilson	0.000	0.000	0.000	0.000
232	Government	Wilson Village Highway Department	375 Lake Street	Wilson	0.000	0.000	0.000	0.000
234	Government	Youngstown Village Highway Department	355 Third St.	Youngstown	0.000	0.000	0.000	0.000
238	Information and Telecommunication	Cingular Wireless (Communicator)	4160 Upper Mountain Road	Cambria	0.000	0.000	0.000	0.000
239	Information and Telecommunication	Cingular Wireless (Communicator)	4621 Ridge Road	Cambria	0.000	0.000	0.000	0.000
241	Information and Telecommunication	Crown Atlantic Company LLC	4160 Upper Mountain Road	Cambria	0.000	0.000	0.000	0.000
242	Information and Telecommunication	Crown Atlantic Company LLC (tower)	3023 Carney Drive	Cambria	0.000	0.000	0.000	0.000

Appendix Y Critical Infrastructure Database

ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
246	Information and Telecommunication	Nextel (Communicator)	4719 Lockport Road	Cambria	0.000	0.000	0.000	0.000
251	Information and Telecommunication	Omnipoint Communications (Communicator)	4621 Ridge Road	Cambria	0.000	0.000	0.000	0.000
255	Information and Telecommunication	SBC Tower Holdings (tower)	4621 Ridge Road	Cambria	0.000	0.000	0.000	0.000
257	Information and Telecommunication	Sprint (tower)	4719 Lockport Road	Cambria	0.000	0.000	0.000	0.000
264	Information and Telecommunication	Verizon (Switching Station)	95 Tremont	North Tonawanda	0.000	0.000	0.000	0.000
269	Information and Telecommunication	Voicestream (Comm.2)	4719 Lockport Road	Cambria	0.000	0.000	0.000	0.000
271	Postal and Shipping	Appleton Post Office	1924 Hess Road	Appleton	0.000	0.000	0.000	0.000
272	Postal and Shipping	Barker Post Office	8720 Main Street	Barker	0.000	0.000	0.000	0.000
273	Postal and Shipping	Gasport Post Office	8391 Rochester Rd.	Gasport	0.000	0.000	0.000	0.000
275	Postal and Shipping	Lockport Post Office	138 East Ave.	Lockport	0.000	0.000	0.000	0.000
277	Postal and Shipping	Middleport Post Office	42 Main Street	Middleport	0.000	0.000	0.000	0.000
278	Postal and Shipping	Newfane Post Office	6000 Edwards Avenue	Newfane	0.000	0.000	0.000	0.000
279	Postal and Shipping	North Tonawanda Post Office	Gundry and Oliver St.	North Tonawanda	0.000	0.000	0.000	0.000
280	Postal and Shipping	Olcott Post Office	1617 Lockport-Olcott Road	Olcott	0.000	0.000	0.000	0.000
283	Public Health	Alterra Health Care	6751 Nash Road	North Tonawanda, 14120	0.000	0.000	0.000	0.000
284	Public Health	Crestwood Health Care Center	2600 Niagara Falls Boulevard	Niagara Falls, 14304	0.000	0.000	0.000	0.000
287	Public Health	Lewiston Senior Center	Pletcher Road and River Road	Lewiston	0.000	0.000	0.000	0.000
288	Public Health	Lockport Memorial Hospital	521 East Avenue	Lockport	0.000	0.000	0.000	0.000
293	Public Health	Newfane Health Facility	2709 Transit Road	Newfane	0.000	0.000	0.000	0.000
294	Public Health	Newfane Intercommunity Hospital	2600 William Street	Newfane	0.000	0.000	0.000	0.000
295	Public Health	Niagara County Department of Health	5467 Upper Mountain Road, Suite 100	Lockport	0.000	0.000	0.000	0.000
297	Public Health	Northgate Health Care Facility	7264 Nash Road	North Tonawanda, 14120	0.000	0.000	0.000	0.000
298	Public Health	Summit Healthplex	6934 Williams Road	Niagara Falls, 14304	0.000	0.000	0.000	0.000
299	Public Health	Tri-Community Ambulance	6276 Ward Road	Sanborn, 14132	0.000	0.000	0.000	0.000
300	Public Health	Tri-Town Ambulance	8881Ridge Road	Gasport	0.000	0.000	0.000	0.000
301	Public Health	Tri-Town Ambulance	S. Hartland St.	Middleport	0.000	0.000	0.000	0.000
306	Schools and Academic Institution	Administration Building	4061 Creek Road	Youngstown	0.000	0.000	0.000	0.000
308	Schools and Academic Institution	Anna Merritt Elementary School	389 Green Street	Lockport	0.000	0.000	0.000	0.000
309	Schools and Academic Institution	Barker Central	1628 Quaker Road	Barker	0.000	0.000	0.000	0.000
311	Schools and Academic Institution	Charles A. Upson Elementary School	28 Harding Avenue	Lockport	0.000	0.000	0.000	0.000
313	Schools and Academic Institution	Charlotte Cross Early Childhood Center	319 West Avenue	Lockport	0.000	0.000	0.000	0.000
315	Schools and Academic Institution	Christian Academy of Wny	120 Main St	Lockport	0.000	0.000	0.000	0.000
316	Schools and Academic Institution	Colonial Village Elementary	1456 Saunders Settlement Road	Niagara Falls 14305	0.000	0.000	0.000	0.000
319	Schools and Academic Institution	Community Resource Center	4011 Creek Road	Youngstown	0.000	0.000	0.000	0.000
320	Schools and Academic Institution	Desales Catholic School	6914 Chestnut Rdg Rd	Lockport	0.000	0.000	0.000	0.000
321	Schools and Academic Institution	Dewitt Clinton Elementary School	85 North Adam Street	Lockport	0.000	0.000	0.000	0.000
323	Schools and Academic Institution	Dr. Thaddeus F Reszel Middle School	1500 Vanderbilt Avenue	North Tonawanda	0.000	0.000	0.000	0.000
324	Schools and Academic Institution	Drake Elementary School	380 Drake Drive	North Tonawanda	0.000	0.000	0.000	0.000
325	Schools and Academic Institution	Edward Town Middle School	2292 Saunders Settlement Road	Sanborn 14132	0.000	0.000	0.000	0.000
326	Schools and Academic Institution	Emmet Belknap Middle School	491 High Street	Lockport	0.000	0.000	0.000	0.000
328	Schools and Academic Institution	Errick Road Elementary School	6839 Errick Road	Wheatfield	0.000	0.000	0.000	0.000
332	Schools and Academic Institution	George M. Southard Elementary School	6385 Locust Street	Lockport	0.000	0.000	0.000	0.000
335	Schools and Academic Institution	Grant Elementary School	Grant Street	North Tonawanda	0.000	0.000	0.000	0.000
336	Schools and Academic Institution	Harry F. Abate Elementary	1625 Lockport Road	Niagara Falls	0.000	0.000	0.000	0.000
337	Schools and Academic Institution	Henrietta G. Lewis Campus School	6395 Old Niagara Road	Lockport	0.000	0.000	0.000	0.000
339	Schools and Academic Institution	Holy Ghost Lutheran School	6630 Luther St	Niagara Falls	0.000	0.000	0.000	0.000
340	Schools and Academic Institution	Holy Ghost Lutheran School	6630 Luther Street	Niagara Falls, 14304	0.000	0.000	0.000	0.000
342	Schools and Academic Institution	Intermediate Education Center	4061 Creek Road	Youngstown	0.000	0.000	0.000	0.000
344	Schools and Academic Institution	John E. Pound Elementary School	51 High Street	Lockport	0.000	0.000	0.000	0.000
346	Schools and Academic Institution	Royalton Hartland High School	54 State Street	Middleport	0.000	0.000	0.000	0.000
347	Schools and Academic Institution	Kalfas Magnet School	1800 Beech Avenue	Niagara Falls	0.000	0.000	0.000	0.000
348	Schools and Academic Institution	Lasalle Middle School	7436 Buffalo Avenue	Niagara Falls	0.000	0.000	0.000	0.000
349	Schools and Academic Institution	Lewiston Porter Central School	4061 Creek Road	Youngstown, 14174	0.000	0.000	0.000	0.000
350	Schools and Academic Institution	Lockport High School	250 Lincoln Avenue	Lockport	0.000	0.000	0.000	0.000
353	Schools and Academic Institution	Maple Avenue Elementary	Maple & McKoon Avenue	Niagara Falls	0.000	0.000	0.000	0.000

Appendix Y Critical Infrastructure Database

ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
355	Schools and Academic Institution	Middle School	4093 Creek Road	Youngstown	0.000	0.000	0.000	0.000
358	Schools and Academic Institution	Middle/High School	374 Lake Street	Wilson	0.000	0.000	0.000	0.000
359	Schools and Academic Institution	Royalton Hartland Middle School	1000 State Street	Middleport	0.000	0.000	0.000	0.000
360	Schools and Academic Institution	Newfane Early Childhood Center	6048 Godfrey Road	Newfane	0.000	0.000	0.000	0.000
361	Schools and Academic Institution	Newfane Elementary School	2909 Transit Road	Newfane	0.000	0.000	0.000	0.000
362	Schools and Academic Institution	Newfane Intermediate School	6191 East Avenue	Newfane	0.000	0.000	0.000	0.000
364	Schools and Academic Institution	Newfane Senior High School	1 Panther Drive	Newfane	0.000	0.000	0.000	0.000
365	Schools and Academic Institution	Niagara Catholic High School	520 66th Street	Niagara Falls	0.000	0.000	0.000	0.000
366	Schools and Academic Institution	Niagara Christian Academy	601 28th Street	Niagara Falls	0.000	0.000	0.000	0.000
367	Schools and Academic Institution	Niagara County Charter School	2077 Lockport Road	Niagara Falls	0.000	0.000	0.000	0.000
368	Schools and Academic Institution	Niagara County Community College	3111 Saunders Sett. Rd.	Cambria	0.000	0.000	0.000	0.000
371	Schools and Academic Institution	Niagara Orleans B.O.C.E.S.	3181 Saunders Sett. Rd.	Cambria	0.000	0.000	0.000	0.000
372	Schools and Academic Institution	Niagara Orleans B.O.C.E.S.	4124 Saunders Sett. Rd.	Cambria	0.000	0.000	0.000	0.000
373	Schools and Academic Institution	Niagara Street Elementary	Niagara & 25th Street	Niagara Falls	0.000	0.000	0.000	0.000
375	Schools and Academic Institution	Niagara Wheatfield Highschool	2292 Saunders Settlement Road	Sanborn 14132	0.000	0.000	0.000	0.000
377	Schools and Academic Institution	North Park Middle School	160 Passaic Avenue	Lockport	0.000	0.000	0.000	0.000
378	Schools and Academic Institution	North Tonawanda Catholic School	75 Keil Street	North Tonawanda	0.000	0.000	0.000	0.000
380	Schools and Academic Institution	Our Lady of Mount Carmel	2499 Independence Avenue	Niagara Falls	0.000	0.000	0.000	0.000
382	Schools and Academic Institution	Primary Education Center	4019 Creek Road	Youngstown	0.000	0.000	0.000	0.000
383	Schools and Academic Institution	Prince of Peace School	1055 N Military Road	Niagara Falls	0.000	0.000	0.000	0.000
384	Schools and Academic Institution	Roy B. Kelley Elementary School	610 East High Street	Lockport	0.000	0.000	0.000	0.000
386	Schools and Academic Institution	Sacred Heart Villa School	5269 Lewiston Road	Lewiston	0.000	0.000	0.000	0.000
388	Schools and Academic Institution	Senior High School	4135 Creek Road	Youngstown	0.000	0.000	0.000	0.000
390	Schools and Academic Institution	St. Dominic Savio Middle School	504 66th Street	Niagara Falls	0.000	0.000	0.000	0.000
391	Schools and Academic Institution	St. John De Lasalle School	8477 Buffalo Ave	Niagara Falls	0.000	0.000	0.000	0.000
392	Schools and Academic Institution	St. John De Lasalle School	8477 Buffalo Avenue	Niagara Falls, 14304	0.000	0.000	0.000	0.000
393	Schools and Academic Institution	St. John Lutheran School	6950 Ward Road	North Tonawanda, 14120	0.000	0.000	0.000	0.000
394	Schools and Academic Institution	St. Joseph Elementary School	625 Tronolone Place	Niagara Falls	0.000	0.000	0.000	0.000
395	Schools and Academic Institution	St. Mark Lutheran School	1135 Oliver Street	North Tonawanda	0.000	0.000	0.000	0.000
396	Schools and Academic Institution	St. Matthew Lutheran School	875 Eggert Drive	North Tonawanda	0.000	0.000	0.000	0.000
397	Schools and Academic Institution	St. Paul Lutheran School	453 Old Falls Blvd	North Tonawanda	0.000	0.000	0.000	0.000
398	Schools and Academic Institution	St. Peter Lutheran School NR	4169 Church Rd	Lockport	0.000	0.000	0.000	0.000
399	Schools and Academic Institution	St. Peter's Evan Lutheran School	6168 Walmore Road	Sanborn, 14132	0.000	0.000	0.000	0.000
400	Schools and Academic Institution	St. Peter's Roman Catholic School	140 North 6th Street	Lewiston	0.000	0.000	0.000	0.000
401	Schools and Academic Institution	Stella Niagara Education Park	4421 Lower River Road	Stella Niagara	0.000	0.000	0.000	0.000
402	Schools and Academic Institution	Thomas Marks Elementary School	430 Young Street	Wilson	0.000	0.000	0.000	0.000
403	Schools and Academic Institution	Tuscarora Indian Elementary School	2015 Mount Hope Road	Lewiston	0.000	0.000	0.000	0.000
404	Schools and Academic Institution	Washington Hunt Elementary School	50 Rogers Road	Lockport	0.000	0.000	0.000	0.000
406	Schools and Academic Institution	West Street Elementary	5700 West Street	Sanborn, 14132	0.000	0.000	0.000	0.000
407	Schools and Academic Institution	Wheatfield Christian Academy	2334 Lockport Road	Sanborn, 14132	0.000	0.000	0.000	0.000
408	Transportation	Bent-Wing Airport	3770 Lockport Olcott Road	Lockport	0.000	0.000	0.000	0.000
411	Transportation	CSXT Niagara Falls Suspension Bridge	29th & Seneca Streets	Niagara Falls	0.000	0.000	0.000	0.000
412	Transportation	Falls Road Railroad	Niagara Street	Lockport	0.000	0.000	0.000	0.000
413	Transportation	Falls Road Railroad	Park Avenue	Lockport	0.000	0.000	0.000	0.000
424	Transportation	Niagara Falls International Airport	Niagara Falls Blvd at Porter Road	Niagara Falls	0.000	0.000	0.000	0.000
427	Transportation	Niagara Falls Railroad Station	27 Lockport Road	Niagara Falls	0.000	0.000	0.000	0.000
429	Transportation	Pendleton Airpark Airport	286 Creekside Drive	Pendleton	0.000	0.000	0.000	0.000
432	Transportation	Ridge Road Express	1692 Quaker Rd	Barker	0.000	0.000	0.000	0.000
437	Transportation	Somerset Railroad	7725 Lake Road	Barker	0.000	0.000	0.000	0.000
438	Transportation	Somerset Railroad	Niagara Street	Lockport	0.000	0.000	0.000	0.000
440	Water: Drinking Water	Cambria Town Finished Water Storage	4160 Upper Mountain Road	Cambria	0.000	0.000	0.000	0.000
442	Water: Drinking Water	Lockport City Finished Water Storage Tank	Outwater Park	Lockport	0.000	0.000	0.000	0.000
444	Water: Drinking Water	Lockport City Water Treatment Facility	220 Summit Street	Lockport	0.000	0.000	0.000	0.000
446	Water: Drinking Water	NCWD Finished Water Storage Tank	Robinson and Transit Roads	Lockport	0.000	0.000	0.000	0.000
447	Water: Drinking Water	Newfane Town Finished Water Storage	Transit Road	Newfane	0.000	0.000	0.000	0.000

Appendix Y Critical Infrastructure Database

ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
448	Water: Drinking Water	Niagara County Water Authority	7227 Williams Road	Niagara Falls, 14304	0.000	0.000	0.000	0.000
449	Water: Drinking Water	Niagara County Water District (NCWD)	7227 Williams Road	Niagara Falls	0.000	0.000	0.000	0.000
450	Water: Drinking Water	Niagara Falls Finished Water Storage Tank	56th Street	Niagara Falls	0.000	0.000	0.000	0.000
456	Water: Drinking Water	North Tonawanda Finished Water Storage	Toellner Avenue	North Tonawanda	0.000	0.000	0.000	0.000
460	Water: Drinking Water	Pendleton Town Finished Water Storage	6596 Campbell Blvd	Pendleton	0.000	0.000	0.000	0.000
463	Water: Drinking Water	Water District	5450 Ernest Road	Lockport	0.000	0.000	0.000	0.000
464	Water: Drinking Water	Water Tower	Lockport-Olcott Road (Rt. 78)	Newfane	0.000	0.000	0.000	0.000
465	Water: Drinking Water	Water Tower	West Lake Road (Route 18)	Olcott	0.000	0.000	0.000	0.000
466	Water: Drinking Water	Wilson Town Finished Water Storage	3356 Wilson Cambria Road	Wilson	0.000	0.000	0.000	0.000
468	Water: Wastewater	Lewiston Waste Water Pollution Control Cent	501 Pletcher Road	Lewiston	0.000	0.000	0.000	0.000
469	Water: Wastewater	Lockport Waste Water Treatment Plant	611 West Jackson Street	Lockport	0.000	0.000	0.000	0.000
470	Water: Wastewater	Middleport STP	3825 North Hartland Street	Middleport	0.000	0.000	0.000	0.000
471	Water: Wastewater	Niagara County Sewer District #1	7346 Liberty Drive	Niagara Falls	0.000	0.000	0.000	0.000
472	Water: Wastewater	Niagara Falls Waste Water Facility	1200 Buffalo Avenue	Niagara Falls	0.000	0.000	0.000	0.000
95	Defense Industrial Base	Niagara Falls Air Reserve	10670 Krug Ave.		0.000	0.000	0.000	0.000
423	Transportation	Niagara Falls International Airport	10670 Krug Ave.		0.000	0.000	0.000	0.000
425	Transportation	Niagara Falls International Airport	Niagara Falls Boulevard at Porter Road		0.000	0.000	0.000	0.000
37	Chemical Industry/ Hazardous Mat	Falls Welding Supply	6375 Packard Road	Town of Niagara	0.000	0.000	43.105	-78.991
56	Chemical Industry/ Hazardous Mat	LaFarge Group	8875 Quarry Road	Town of Niagara	0.000	0.000	43.125	-78.964
96	Defense Industrial Base	US Army Reserve Center	9400 Porter Road	Town of Niagara	0.000	0.000	43.126	-79.013
167	Food	International Border Inspections Meat Inspect	4575 Witmer Road	Town of Niagara	0.000	0.000	43.127	-79.012
171	Food	United States Meat Inspection	3555 Witmer Road	(blank)	0.000	0.000	43.130	-79.014
236	Information and Telecommunication	AT&T Wireless	10420 Lockport Road	Town of Niagara	0.000	0.000	43.124	-78.946
237	Information and Telecommunication	AT&T Wireless	3800 Military Road	Town of Niagara	0.000	0.000	43.122	-78.945
240	Information and Telecommunication	Crickit	3800 Military Road	Town of Niagara	0.000	0.000	43.123	-78.945
247	Information and Telecommunication	Nextel of New York, Inc.	1551 Factory Outlet Boulevard	Town of Niagara	0.000	0.000	43.093	-78.987
248	Information and Telecommunication	Nextel of New York, Inc.	5000 Mayle Court	Town of Niagara	0.000	0.000	43.122	-79.006
250	Information and Telecommunication	Nortel	10420 Lockport Road	Town of Niagara	0.000	0.000	43.124	-78.946
258	Information and Telecommunication	Sprint Spectrum, LP	10420 Lockport Road	Town of Niagara	0.000	0.000	43.124	-78.946
259	Information and Telecommunication	Sprint Spectrum, LP	5000 Mayle Court	Town of Niagara	0.000	0.000	43.122	-79.006
265	Information and Telecommunication	Verizon Communications	3085 Woodland Ave.	Town of Niagara	0.000	0.000	43.106	-78.979
274	Postal and Shipping	Great Lakes Customs Brokerage	4500 Witmer Road Industrial Estates	Town of Niagara	0.000	0.000	43.126	-79.013
281	Postal and Shipping	United Parcel Service	6410 Packard Road	Town of Niagara	0.000	0.000	43.106	-78.990
417	Transportation	Johnson Airport	7833 Lee Drive	Town of Niagara	0.000	0.000	43.127	-78.974
4	Chemical Industry/ Hazardous Mat	AES Somerset	7725 Lake Road	Barker	500990.000	1220190.000	0.000	0.000
7	Chemical Industry/ Hazardous Mat	Allvac	695 Ohio Street	Lockport	465280.000	1150930.000	0.000	0.000
8	Chemical Industry/ Hazardous Mat	American Biorganics	2236 Liberty Drive	Niagara Falls	408210.000	1198100.000	0.000	0.000
9	Chemical Industry/ Hazardous Mat	American Biorganics	2236 Liberty Drive	Niagara Falls	408210.000	1198100.000	0.000	0.000
10	Chemical Industry/ Hazardous Mat	American Ref-Fuel	100 Energy Blvd. & 56th Street	Niagara Falls	386720.000	1123730.000	0.000	0.000
13	Chemical Industry/ Hazardous Mat	Angus Buffers & Biochemicals	2236 Liberty Drive	Niagara Falls	408210.000	1198100.000	0.000	0.000
16	Chemical Industry/ Hazardous Mat	BFI Waste Systems/Niagara Recycling	56th Street & Niagara Falls Blvd	Niagara Falls	388550.000	1126930.000	0.000	0.000
17	Chemical Industry/ Hazardous Mat	BFI Waste Systems/Niagara Recycling	56th Street and Niagara Falls Boulevard	Town of Niagara	388550.000	1126930.000	0.000	0.000
19	Chemical Industry/ Hazardous Mat	Buffalo Pumps, Inc.	874 Oliver Street	North Tonawanda	419340.000	1109840.000	0.000	0.000
22	Chemical Industry/ Hazardous Mat	Carbide/Graphite Group Inc	4861 Packard Road	Niagara Falls	387780.000	1128560.000	0.000	0.000
23	Chemical Industry/ Hazardous Mat	Cecos International	5600 Niagara Falls Blvd.	Niagara Falls	388710.000	1126830.000	0.000	0.000
24	Chemical Industry/ Hazardous Mat	Cecos International	5600 Niagara Falls Boulevard	Town of Niagara	388710.000	1126830.000	0.000	0.000
25	Chemical Industry/ Hazardous Mat	Ceres Corporation	2250 Liberty Drive	Niagara Falls	408730.000	1198200.000	0.000	0.000
26	Chemical Industry/ Hazardous Mat	Coulter Farms	3867 North Ridge Road	Lockport	433430.000	1171260.000	0.000	0.000
28	Chemical Industry/ Hazardous Mat	Delphi Auto System	200 Upper Mountain Road	Lockport	458130.000	1155130.000	0.000	0.000
30	Chemical Industry/ Hazardous Mat	Delphi Thermal Systems	200 Upper Mt. Road	Lockport	458130.000	1155130.000	0.000	0.000
33	Chemical Industry/ Hazardous Mat	Durez Niagara	5000 Packard Road	Niagara Falls	388100.000	1139800.000	0.000	0.000
34	Chemical Industry/ Hazardous Mat	EI Dupont De Nemours Cormpany	787 Buffalo Ave. and 26th Street	Niagara Falls	382830.000	1123110.000	0.000	0.000
36	Chemical Industry/ Hazardous Mat	Exel	4890 I.D.A. Park	Lockport	456470.000	1156050.000	0.000	0.000
38	Chemical Industry/ Hazardous Mat	Ferrellgas	2150 Lockport Road	Niagara Falls	406440.000	1137320.000	0.000	0.000
39	Chemical Industry/ Hazardous Mat	Ferro Electronic Materials	4511 Hyde Park Blvd.	Niagara Falls	379240.000	1140420.000	0.000	0.000

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ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
40	Chemical Industry/ Hazardous Mat	Ferro Electronic Materials	4511 Hyde Park Boulevard	Town of Niagara	379240.000	1140420.000	0.000	0.000
44	Chemical Industry/ Hazardous Mat	Goodyear Tire and Rubber	5500 Goodyear Drive	Niagara Falls	388180.000	1124850.000	0.000	0.000
48	Chemical Industry/ Hazardous Mat	Jamestown Container Division	85 Grand Street	Lockport	470290.000	1156430.000	0.000	0.000
50	Chemical Industry/ Hazardous Mat	JH Products Inc.	520 Mill Street	Lockport	468720.000	1160540.000	0.000	0.000
51	Chemical Industry/ Hazardous Mat	Kanthal Global	3425 Hyde Park Blvd.	Niagara Falls	379860.000	1136700.000	0.000	0.000
52	Chemical Industry/ Hazardous Mat	K-C Divestiture Corp.	3943 Buffalo Avenue	Niagara Falls	384610.000	1122740.000	0.000	0.000
53	Chemical Industry/ Hazardous Mat	LaFarge Corp.	1717 New Road	Niagara Falls	387750.000	1130840.000	0.000	0.000
54	Chemical Industry/ Hazardous Mat	LaFarge Group	500 Richfield Street	Niagara	464690.000	1153230.000	0.000	0.000
55	Chemical Industry/ Hazardous Mat	LaFarge Group	501 Richfield Street	Town of Niagara	464690.000	1153230.000	0.000	0.000
62	Chemical Industry/ Hazardous Mat	Milward Alloys Inc.	500 Mill Street	Lockport	469310.000	1160410.000	0.000	0.000
65	Chemical Industry/ Hazardous Mat	M-R-S Plating Inc.	310 Park Avenue	Lockport	466610.000	1154380.000	0.000	0.000
66	Chemical Industry/ Hazardous Mat	Niacet Corp.	400 47th Street	Niagara Falls	386560.000	1126420.000	0.000	0.000
67	Chemical Industry/ Hazardous Mat	Niagara Falls Storage Site	1397 Pletcher Road	Lewiston	393170.000	1172080.000	0.000	0.000
69	Chemical Industry/ Hazardous Mat	Norampac Industry Inc.	4001 Packard Road	Niagara Falls	385310.000	1126400.000	0.000	0.000
70	Chemical Industry/ Hazardous Mat	Norton Ekonol Resins	6600 Walmore Road	Niagara Falls	406020.000	1131440.000	0.000	0.000
72	Chemical Industry/ Hazardous Mat	Oxbow Power	7341 Shawnee Road	Wheatfield	433770.000	1117610.000	0.000	0.000
73	Chemical Industry/ Hazardous Mat	Pivot Punch Corp	6550 Campbell Boulevard	Lockport	448830.000	1133150.000	0.000	0.000
74	Chemical Industry/ Hazardous Mat	Precious Plate, Inc.	2124 Liberty Drive	Niagara Falls	405530.000	1120600.000	0.000	0.000
75	Chemical Industry/ Hazardous Mat	Recreational Dist. Warehouse	555 River Road	North Tonawanda	419520.000	1106220.000	0.000	0.000
77	Chemical Industry/ Hazardous Mat	Riverside Chemical Co.	871-947 River Road	North Tonawanda	418380.000	1109350.000	0.000	0.000
80	Chemical Industry/ Hazardous Mat	Sherwood Division of Harsco	120 Church Street	Lockport	470420.000	1156120.000	0.000	0.000
81	Chemical Industry/ Hazardous Mat	Smurfit-Stone Container	7393 Shawnee Road	Wheatfield	433340.000	1116810.000	0.000	0.000
82	Chemical Industry/ Hazardous Mat	Spartech Polycorn	4921 Ida Drive	Lockport	456850.000	1154070.000	0.000	0.000
86	Chemical Industry/ Hazardous Mat	Twin Lake Chemical Inc.	520 Mill Street	Lockport	468720.000	1160540.000	0.000	0.000
87	Chemical Industry/ Hazardous Mat	Val-Kro Inc.	369 River Road	North Tonawanda	420470.000	1104540.000	0.000	0.000
88	Chemical Industry/ Hazardous Mat	Vanchlor Inc.	45 Main Street	Lockport	470860.000	1155050.000	0.000	0.000
90	Chemical Industry/ Hazardous Mat	Vandemark Group	One North Transit Road	Lockport	469440.000	1160100.000	0.000	0.000
92	Chemical Industry/ Hazardous Mat	Wheatfield Gardens	7341 Shawnee Road	Wheatfield	433770.000	1117610.000	0.000	0.000
93	Chemical Industry/ Hazardous Mat	William Specialty Alloys	2080 Lockport Road	Niagara Falls	405180.000	1136640.000	0.000	0.000
94	Defense Industrial Base	New York State Armory	158 Willow Street	Lockport	469130.000	1151360.000	0.000	0.000
97	Emergency Services	Adams Fire Company	7113 Nash Road	North Tonawanda, 14120	424700.000	1122790.000	0.000	0.000
101	Emergency Services	Bergholz Fire Company	2470 Niagara Road	Niagara Falls	412280.000	1130900.000	0.000	0.000
105	Emergency Services	City of Lockport Fire Department	Municipal Building	Lockport	469980.000	1154860.000	0.000	0.000
106	Emergency Services	Frontier Volunteer Fire Company - Hall 1	2176 Liberty Drive	Niagara Falls, 14304	406760.000	1198700.000	0.000	0.000
111	Emergency Services	Lewiston Fire Company #1, Inc.	145 North Sixth Street	Lewiston	377980.000	1156620.000	0.000	0.000
113	Emergency Services	Lewiston Town Police Department	145 North Fourth Street	Lewiston	376870.000	1568400.000	0.000	0.000
115	Emergency Services	Lockport City Police Department	One Locks Plaza	Lockport	469980.000	1154860.000	0.000	0.000
118	Emergency Services	Miller Hose Volunteer Fire Company	2737 Main Street	Newfane	466910.000	1196050.000	0.000	0.000
119	Emergency Services	New York State Police Troop A Zone 1	3609 Witmer Road	Lockport	384560.000	1140540.000	0.000	0.000
122	Emergency Services	Niagara County Jail	5526 Niagara Street Exchange	Lockport	458830.000	1158530.000	0.000	0.000
124	Emergency Services	Niagara County Sheriff's Department	5526 Niagara Street Exchange	Lockport	458830.000	1158530.000	0.000	0.000
125	Emergency Services	Niagara Falls City Police Department	520 Hyde Park Boulevard	Niagara Falls	382250.000	1270400.000	0.000	0.000
126	Emergency Services	Niagara Falls Fire Department	3115 Walnut Avenue	Niagara Falls	382220.000	1127320.000	0.000	0.000
128	Emergency Services	Niagara Town Police Department	7105 Lockport Road	Town of Niagara	392860.000	1137510.000	0.000	0.000
129	Emergency Services	North Tonawanda City Police	216 Payne Avenue	North Tonawanda	423300.000	1103810.000	0.000	0.000
130	Emergency Services	North Tonawanda Fire Department	495 Zimmerman Road	North Tonawanda	427330.000	1109180.000	0.000	0.000
131	Emergency Services	North Tonawanda Fire Headquarters and EOC	495 Zimmerman Road	North Tonawanda	427330.000	1109180.000	0.000	0.000
138	Emergency Services	South Wilson Fire Company	4194 Chestnut Street	Wilson	437790.000	1180930.000	0.000	0.000
139	Emergency Services	St. Johnsburg Fire Company	7165 Ward Road	North Tonawanda, 14120	418480.000	1121510.000	0.000	0.000
141	Emergency Services	Town of Niagara Active Hose Co., Inc.	3995 Lockport Road	Town of Niagara	382660.000	1135850.000	0.000	0.000
142	Emergency Services	Town of Niagara Active Hose Co., Inc.	6010 Lockport Road	Town of Niagara	390370.000	1137500.000	0.000	0.000
143	Emergency Services	Wendelville Fire Company #1	7340 Campbell Blvd	Pendleton	449550.000	1119270.000	0.000	0.000
146	Emergency Services	Wilson Fire Company	250 Young Street	Wilson	434980.000	1205650.000	0.000	0.000
147	Emergency Services	Wrights Corners Fire Company, Hall 2	5515 Shunpike Road	Lockport	459290.000	1165120.000	0.000	0.000
149	Emergency Services	Wrights Corners Fire Company, Inc.	4043 Lake Avenue	Lockport	475430.000	1171830.000	0.000	0.000

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ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
151	Emergency Services	Youngstown Village Police Department	240 Lockport Street	Youngstown	376450.000	1184750.000	0.000	0.000
156	Energy and Utilities	National Fuel Gas	6250 Packard Road	Niagara Falls	390530.000	1131780.000	0.000	0.000
157	Energy and Utilities	National Fuel Gas	6250 Packard Road	Town of Niagara	390530.000	1131780.000	0.000	0.000
169	Food	Pfeiffer Foods Inc.	683 Lake Street	Wilson	435010.000	1201120.000	0.000	0.000
175	Government	Civic Building	775 Third Street	Niagara Falls	372800.000	1128310.000	0.000	0.000
177	Government	Cooperative Extension Service	4487 Lake Avenue	Lockport	476230.000	1163410.000	0.000	0.000
178	Government	County Building	111 Main Street	Lockport	471580.000	1155310.000	0.000	0.000
179	Government	Credit Union	260 West Avenue	Lockport	467400.000	1153980.000	0.000	0.000
181	Government	Human Resources Building	301 Tenth Street	Niagara Falls	375490.000	1153600.000	0.000	0.000
182	Government	Lewiston Town Hall	1375 Ridge Road	Lewiston	382940.000	1158860.000	0.000	0.000
183	Government	Lewiston Town Highway Department	1445 Swan Rd.	Lewiston	394430.000	1168090.000	0.000	0.000
184	Government	Lewiston Village Hall	145 N. Fourth Street	Lewiston	376570.000	1158684.000	0.000	0.000
187	Government	Lockport Municipal Building	One Locks Plaza	Lockport	469980.000	1154860.000	0.000	0.000
193	Government	Niagara County Courthouse	175 Hawley Street	Lockport	468740.000	1154810.000	0.000	0.000
195	Government	Niagara Falls City Hall	745 Main Street	Niagara Falls	373950.000	1128250.000	0.000	0.000
197	Government	Niagara Town Hall	7105 Lockport Road	Niagara Falls	392860.000	1137510.000	0.000	0.000
198	Government	Niagara Town Hall	7105 Lockport Road	Town of Niagara	392860.000	1137510.000	0.000	0.000
199	Government	Niagara Town Highway Department	7105 Lockport Road	Niagara Falls	392860.000	1137510.000	0.000	0.000
200	Government	Niagara Town Highway Department	7105 Lockport Road	Town of Niagara	392860.000	1137510.000	0.000	0.000
201	Government	Norman Keller Building	500 Wheatfield Street	North Tonawanda	424380.000	1107650.000	0.000	0.000
202	Government	North Tonawanda City Hall	216 Payne Avenue	North Tonawanda	423300.000	1103810.000	0.000	0.000
209	Government	Pendleton Town Hall	6570 Campbell Boulevard	Lockport	448850.000	1132350.000	0.000	0.000
210	Government	Pendleton Town Highway Department	6640 Campbell Blvd.	Lockport	448710.000	1130820.000	0.000	0.000
211	Government	Philo J. Brooks County Office Building	59 Park Avenue	Lockport	469080.000	1154750.000	0.000	0.000
212	Government	Porter Town Hall	3265 Creek Road	Youngstown	386710.000	1187040.000	0.000	0.000
213	Government	Porter Town Highway Department	1800 Braley Rd.	Youngstown	400520.000	1189130.000	0.000	0.000
219	Government	Somerset Town Hall	8700 Haight Road	Barker, 14012	508640.000	1215590.000	0.000	0.000
224	Government	Trott ACCESS Center	1001 11th Street	Niagara Falls	375470.000	1129380.000	0.000	0.000
227	Government	Wheatfield Town Hall	2800 Church Road	North Tonawanda, 14120	416730.000	1123990.000	0.000	0.000
228	Government	Wheatfield Town Highway Department	6860 Ward Rd	Niagara Falls	417710.000	1126770.000	0.000	0.000
229	Government	Wilson Town Hall	375 Lake Street	Wilson	435190.000	1205120.000	0.000	0.000
231	Government	Wilson Village Hall	375 Lake Street	Wilson	435190.000	1205120.000	0.000	0.000
233	Government	Youngstown Village Hall	240 Lockport Street	Youngstown	376450.000	1184750.000	0.000	0.000
262	Information and Telecommunication	T-Mobile	7105 Lockport Road	Town of Niagara	392850.000	1137730.000	0.000	0.000
266	Information and Telecommunication	Verizon Wireless	7105 Lockport Road	Town of Niagara	392850.000	1137730.000	0.000	0.000
268	Information and Telecommunication	Voice Stream	7105 Lockport Road	Town of Niagara	392850.000	1137730.000	0.000	0.000
276	Postal and Shipping	Lockport Post Office	138 East Ave.	Lockport	473120.000	1155450.000	0.000	0.000
282	Postal and Shipping	Wilson Post Office	367 McChesney	Wilson	434670.000	1205300.000	0.000	0.000
285	Public Health	DeGraff Memorial Hospital	4465 Tremont Street	North Tonawanda	425380.000	1102320.000	0.000	0.000
286	Public Health	DeGraff Memorial Hospital, Skilled Nursing I	445 Tremont Street	North Tonawanda	425380.000	1102320.000	0.000	0.000
289	Public Health	Lockport Memorial Hospital	521 East Avenue	Lockport	476480.000	1157730.000	0.000	0.000
292	Public Health	Mount St. Mary's Hospital and Health Center	5300 Military Road	Lewiston	380070.000	1149550.000	0.000	0.000
296	Public Health	Niagara Falls Memorial Medical Center	621 Tenth Street	Niagara Falls	375650.000	1127620.000	0.000	0.000
302	Schools and Academic Institution	60th Street Elementary School	6040 Lindbergh Avenue	Niagara Falls	389920.000	1123900.000	0.000	0.000
303	Schools and Academic Institution	66th Street Elementary School	630 66th Street	Niagara Falls	391500.000	1124830.000	0.000	0.000
304	Schools and Academic Institution	79th Street Elementary School	551 79th Street	Niagara Falls	395790.000	1123990.000	0.000	0.000
305	Schools and Academic Institution	Administration Annex	606 Walnut Avenue	Niagara Falls	373860.000	1127340.000	0.000	0.000
307	Schools and Academic Institution	Administration Building	607 Walnut Avenue	Niagara Falls	373880.000	1127170.000	0.000	0.000
310	Schools and Academic Institution	Central Warehouse and Receiving	543 6th Street	Niagara Falls	373890.000	1126990.000	0.000	0.000
312	Schools and Academic Institution	Charles A. Upson Elementary School	28 Harding Avenue	Lockport	473710.000	1148030.000	0.000	0.000
314	Schools and Academic Institution	Charlotte Cross Early Childhood Center	319 West Avenue	Lockport	466940.000	1154220.000	0.000	0.000
317	Schools and Academic Institution	Community Education Center - 24th Street	901 24th Street	Niagara Falls	379910.000	1128920.000	0.000	0.000
318	Schools and Academic Institution	Community Education Center - Portage	561 Portage Road	Niagara Falls	376350.000	1127060.000	0.000	0.000
322	Schools and Academic Institution	Dewitt Clinton Elementary School	85 North Adam Street	Lockport	472770.000	1158700.000	0.000	0.000
327	Schools and Academic Institution	Emmet Belknap Middle School	491 High Street	Lockport	474600.000	1152330.000	0.000	0.000

Appendix Y Critical Infrastructure Database

ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
329	Schools and Academic Institution	Fricano Primary	4363 Mapleton Road	Lockport	440200.000	1139020.000	0.000	0.000
330	Schools and Academic Institution	Gaskill Middle School	910 Hyde Park Boulevard	Niagara Falls	381630.000	1128890.000	0.000	0.000
333	Schools and Academic Institution	Geraldine J. Mann Elementary	1330 95th Street	Niagara Falls	401380.000	1127160.000	0.000	0.000
334	Schools and Academic Institution	Gilmore Elementary School	789 Gilmore Avenue	North Tonawanda	421010.000	1109370.000	0.000	0.000
338	Schools and Academic Institution	High School	4363 Mapleton Road	Lockport	440200.000	1139020.000	0.000	0.000
341	Schools and Academic Institution	Hyde Park Elementary	1620 Hyde Park Boulevard	Niagara Falls	380950.000	1131220.000	0.000	0.000
343	Schools and Academic Institution	Intermediate School	4363 Mapleton Road	Lockport	440200.000	1139020.000	0.000	0.000
345	Schools and Academic Institution	John E. Pound Elementary School	51 High Street	Lockport	470160.000	1152910.000	0.000	0.000
351	Schools and Academic Institution	Lockport High School	250 Lincoln Avenue	Lockport	471830.000	1148600.000	0.000	0.000
352	Schools and Academic Institution	Maintenance Department	1170 Elmwood Avenue	Niagara Falls	375820.000	1129310.000	0.000	0.000
354	Schools and Academic Institution	Meadow Elementary School	455 Meadow Drive	North Tonawanda	423830.000	1111400.000	0.000	0.000
356	Schools and Academic Institution	Middle School+B190	4363 Mapleton Road	Lockport	440200.000	1139020.000	0.000	0.000
357	Schools and Academic Institution	Middle/High School	1628 Quaker Road	Barker	507320.000	1214920.000	0.000	0.000
363	Schools and Academic Institution	Newfane Middle School	2700 Transit Road	Newfane	469280.000	1197030.000	0.000	0.000
369	Schools and Academic Institution	Niagara Falls High School	4455 Porter Road	Niagara Falls	385580.000	1131350.000	0.000	0.000
370	Schools and Academic Institution	Niagara Middle School	6431 Girard Avenue	Niagara Falls	391460.000	1124220.000	0.000	0.000
374	Schools and Academic Institution	Niagara University	3100 Lewiston Road	Town of Niagara	372840.000	1137130.000	0.000	0.000
379	Schools and Academic Institution	Ohio Elementary School	625 Ohio Avenue	North Tonawanda	427370.000	1115920.000	0.000	0.000
381	Schools and Academic Institution	Pratt Elementary School	1628 Quaker Road	Barker	507320.000	1214920.000	0.000	0.000
385	Schools and Academic Institution	Roy B. Kelley Elementary School	610 East High Street	Lockport	475600.000	1153250.000	0.000	0.000
387	Schools and Academic Institution	Senior High School	405 Meadow Drive	North Tonawanda	422880.000	1111520.000	0.000	0.000
389	Schools and Academic Institution	Spruce Elementary School	195 Spruce Avenue	North Tonawanda	427080.000	1103380.000	0.000	0.000
405	Schools and Academic Institution	Washington Hunt Elementary School	50 Rogers Road	Lockport	476130.000	1157710.000	0.000	0.000
409	Transportation	Best Western Red Jacket Inn Heliport	7001 Buffalo Avenue	Niagara Falls	393010.000	1120110.000	0.000	0.000
410	Transportation	Cambria Airport	4307 North Ridge Road	Lockport	440010.000	1171800.000	0.000	0.000
414	Transportation	Flying F Airport	7100 Campbell Blvd	Pendleton	447640.000	1122820.000	0.000	0.000
416	Transportation	Hollands International Field Airport	3316 Beebe Road	Wilson	451710.000	1186080.000	0.000	0.000
418	Transportation	Leaseway Motorcar Transport	4749 Witmer Road	Niagara Falls	382320.000	1139680.000	0.000	0.000
419	Transportation	Leaseway Motorcar Transport	4749 Witmer Road	Town of Niagara	382320.000	1139680.000	0.000	0.000
421	Transportation	Lockport Cambria Airport	4463 Van Dusen Road	Lockport	442690.000	1164060.000	0.000	0.000
426	Transportation	Niagara Falls Memorial Parking Ramp Heliport	621 Tenth Street	Niagara Falls	375650.000	1127620.000	0.000	0.000
428	Transportation	North Buffalo Suburban Airport	6700 South Transit Road	Pendleton	467380.000	1130700.000	0.000	0.000
430	Transportation	Rainbow Helicopters Inc.	4425 Miller Road	Town of Niagara	371840.000	1126090.000	0.000	0.000
431	Transportation	Rainbow Helicopters Inc.	454 Main Street	Niagara Falls	371840.000	1126090.000	0.000	0.000
433	Transportation	Ridge Road Express	5355 Junction Road	Lockport	454540.000	1149460.000	0.000	0.000
434	Transportation	Ross Heliport, Ross Street Erection Corp	8555 Packard Road	Town of Niagara	397600.000	1136250.000	0.000	0.000
435	Transportation	Ross Heliport, Ross Street Erection Corp.	8555 Packard Road	Niagara Falls	397600.000	1136250.000	0.000	0.000
436	Transportation	Smith Airport	4262 Beach Ridge Road	Pendleton	438860.000	1124930.000	0.000	0.000
439	Transportation	St. Mary's Heliport	5300 Military Road	Lewiston	380070.000	1149550.000	0.000	0.000
443	Water: Drinking Water	Lockport City Raw Water Pump Station	512 River Road	North Tonawanda	419350.000	1105590.000	0.000	0.000
445	Water: Drinking Water	Lockport City Water Treatment Facility	220 Summit Street	Lockport	468230.000	1149910.000	0.000	0.000
451	Water: Drinking Water	Niagara Falls Finished Water Storage Tank	5815 Buffalo Avenue	Niagara Falls	389240.000	1120970.000	0.000	0.000
452	Water: Drinking Water	Niagara Falls Raw Water Pump Station	Buffalo Avenue - PO Box 69	Niagara Falls	389240.000	1120970.000	0.000	0.000
453	Water: Drinking Water	Niagara Falls Water Treatment Facility	5815 Buffalo Avenue - PO Box 69	Niagara Falls	389240.000	1120970.000	0.000	0.000
454	Water: Drinking Water	Niagara Town Finished Water Storage	7105 Lockport Road	Town of Niagara	392850.000	1137730.000	0.000	0.000
455	Water: Drinking Water	North Tonawanda Finished Water Storage	Erie Avenue	North Tonawanda	373480.000	1124410.000	0.000	0.000
467	Water: Wastewater	Gasport WWTP	4244 Bolton Road	Gasport	506160.000	1166700.000	0.000	0.000
473	Water: Wastewater	North Tonawanda Waste Water Treatment Plant	830 River Road	North Tonawanda	418200.000	1108370.000	0.000	0.000
475	Water: Wastewater	Wilson Waste Water Treatment Plant	109 Ontario Street	Wilson	432920.000	1208880.000	0.000	0.000
476	Emergency Services	Upper Mountain Fire Company	839 Moyer Road	Lewiston	384880.000	1150180.000	0.000	0.000
477	Food	Shafer's Farm	3448 Stone Road	Middleport	0.000	0.000	0.000	0.000
478	Information and Telecommunicatio	Sprint PCS Cell Tower	3410 Lauenders Lane	Gasport	0.000	0.000	0.000	0.000
479	Information and Telecommunicatio	Cell Tower	3744 Hartland Road	Gasport	0.000	0.000	0.000	0.000
480	Government	Hartland Town Hall	8942 Ridge Road	Gasport	0.000	0.000	0.000	0.000
481	Government	Town of Hartland Highway Department	8940 Ridge Road	Gasport	0.000	0.000	0.000	0.000

Appendix Y Critical Infrastructure Database

ID	CATEGORY	NAME	ADDRESS	CITY	EASTING	NORTHING	LAT	LONGIT
482	Chemical Industry/ Hazardous Mat	Suburban Propane	2409 Checkered Tavern Road	Appleton	0.000	0.000	0.000	0.000
483	Water: Wastewater	Somerset-Barker WWTP	8200 Lower Lake Road	Somerset	0.000	0.000	0.000	0.000
484	Government	Niagara Falls Outlet Mall	1900 Military Road	Niagara Falls	0.000	0.000	0.000	0.000
485	Government	Town Hall	3265 Creek Road	Youngstown	0.000	0.000	0.000	0.000
486	Government	Town Highway Garage	1800 Braley	Youngstown	0.000	0.000	0.000	0.000
487	Emergency Services	Ransomville Fire Hall	2521 Youngstown-Lockport Road	Ransomville	0.000	0.000	0.000	0.000
488	Government	Stevenson Elementary School	3745 Ransomville Road	Ransomville	0.000	0.000	0.000	0.000
489	Emergency Services	Heritage Nursing Home	3509 Ransomville Road	Ransomville	0.000	0.000	0.000	0.000
490	Chemical Industry/ Hazardous Mat	Chemical Waste Management	1550 Balmer Road	Youngstown	0.000	0.000	0.000	0.000
491	Information and Telecommunicatio	Cellular Tower	Balmer Road	Youngstown	0.000	0.000	0.000	0.000
492	Government	Free Methodist Day School	Ransomville Road	Ransomville	0.000	0.000	0.000	0.000
493	Water: Wastewater	Swain Road Sewer Pump Station	200 Swain Road	Youngstown	0.000	0.000	0.000	0.000
494	Government	Fort Niagara Beach	Robert Moses Parkway North	Youngstown	0.000	0.000	0.000	0.000
495	Water: Drinking Water	Pump Station #3	1006 Woodcliff Drive	Youngstown	0.000	0.000	0.000	0.000
496	Water: Drinking Water	Lake Road #1	299 Lake Road	Youngstown	0.000	0.000	0.000	0.000
497	Water: Drinking Water	Lake Road #2	766 Lake Road	Youngstown	0.000	0.000	0.000	0.000
498	Water: Drinking Water	Pump Station #2	950 Woodcliff Drive	Youngstown	0.000	0.000	0.000	0.000
499	Water: Drinking Water	Pump Station #1	945 Lake Road	Youngstown	0.000	0.000	0.000	0.000
500	Water: Wastewater	Middleport STP	3825 North Hartland Street	Middleport	0.000	0.000	0.000	0.000
501	Energy and Utilities	National Grid Substation #122	20 Sommer Street	North Tonawanda	0.000	0.000	0.000	0.000
502	Energy and Utilities	National Grid Substation #079	5 Ridge Road	North Tonawanda	0.000	0.000	0.000	0.000
503	Transportation	TNT Bus Service	655 Walck Road	North Tonawanda	0.000	0.000	0.000	0.000
504	Transportation	Laidlaw Educational Services	455 Wheatfield Street	North Tonawanda	0.000	0.000	0.000	0.000
505	Emergency Services	Fire Station Truck 1	1425 Nash Road	North Tonawanda	0.000	0.000	0.000	0.000